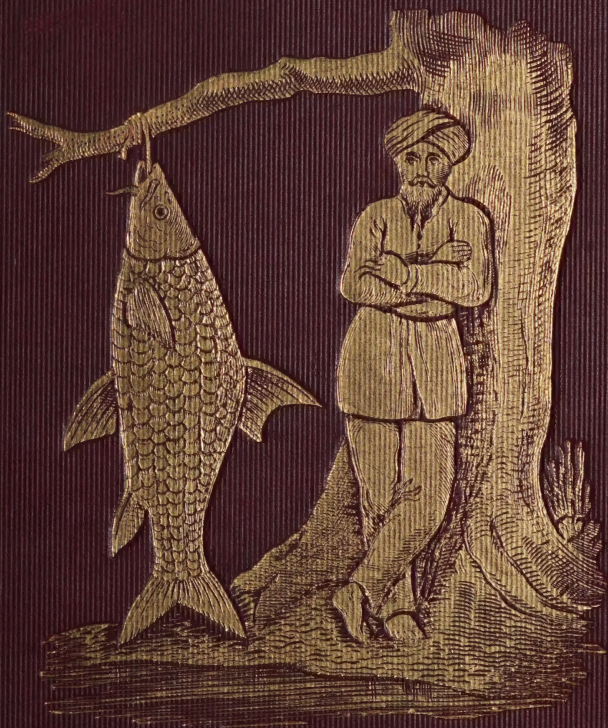
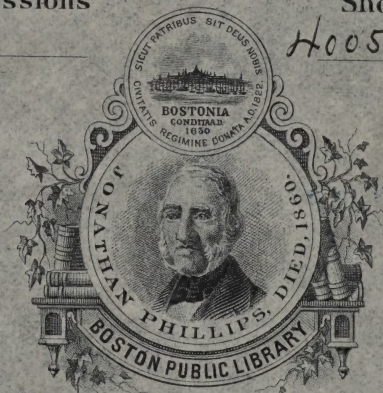




Accessions

Shelf No.

H005.128



FROM THE

Phillips Fund.

Added March 24, 1898

1902

W JUL 12

K JUL 18

JAN -8 1

MAY -5 '48

2309
15

THE ROD IN INDIA

"Pleasant is the fisher's life
By the waters streaming."

"O laborum dulce lenimen."

"Dulce est desipere in loco."

* * "neque semper arcum
tendit Apollo."

THE ROD IN INDIA

BEING

HINTS HOW TO OBTAIN SPORT

WITH

*REMARKS ON THE NATURAL HISTORY OF FISH
AND THEIR CULTURE*

AND

Illustrations of Fish and Tackle

BY

HENRY SULLIVAN THOMAS, F.L.S.

MADRAS CIVIL SERVICE (RETIRED)
AUTHOR OF "TANK ANGLING IN INDIA"

THIRD EDITION

LONDON

W. THACKER & Co., 2, CREED LANE, E.C.

CALCUTTA: THACKER, SPINK & CO.

MADRAS: HIGGINBOTHAM & CO.

c 1897

[All rights reserved]

LONDON :
PRINTED BY WILLIAM CLOWES AND SONS, LIMITED,
STAMFORD STREET AND CHARING CROSS.

Phi.

March 24, 1798.

.....

.....

.....

PREFACE TO THIRD EDITION.

As the Second Edition of this book was, in comparison with the First Edition, "nearly half of it a new book," so the Third Edition makes a further stride in the like direction with more than a third of new matter.

New fish are introduced, with new methods of capture.

Most of the previous full page lithographs are reproduced, reduced by photography to the size of the present handier volume, and two new plates of fish are added.

Endeavouring to give my readers the advantage of all the English improvements in tackle that I thought applicable to India, I have accompanied them with ninety-six illustrations thereof, thinking such a manner of representation more explanatory than any amount of letter-press, and specially so to the far distant Indian angler who cannot enlighten himself by visiting a tackle-shop and judging from personal inspection. Not a few of these illustrations have been presented to me, as particularized below by name of donor, with page on which they appear. Still, while thoroughly acknowledging my indebtedness for the courtesies named, I desire to add that in admitting these illustrations to my pages I have, as ever, had one only consideration, the interests of the angler.

The above additions to the size of the book have brought fresh cause for curtailment in other directions. So I have pruned here and there, and have thrown out two whole chapters on Pisciculture in sea and fresh water, as having only a secondary interest to some anglers, and because, from retirement, I can no longer do anything for Pisciculture in India. At the same time I have not liked to sacrifice

to terseness the chatty style which so many kindly friends have been good enough to approve.

Since writing the second edition of this volume new difficulties have arisen to confront me and to compel me to seek again the kindly consideration of my friendly readers. In my first and second editions, comprehending, or at least endeavouring to embrace, all Indian fish that could be taken with a rod, my matter simply grew with my knowledge of a new subject. But since then I have endeavoured to divide my subject by writing 'Tank Angling in India,' and I have now to consider whether or not to maintain the division.

The primary object of 'Tank Angling' was, as stated in its preface, to produce a cheap book for those who could not afford to fish for Mahseer, and it led naturally to confining the subject to such fishing as, without camp equipage and expensive journeys, could be had in ponds, fort moats, bathing tanks, or other reservoirs close at hand. That division made, it seems well to keep to it, and for other reasons also, namely, the avoiding of repetition, and the keeping of 'The Rod in India' from swelling to inconvenient proportions.

Endeavouring to keep up this division of subjects, I hope that the two books may become as much sister volumes as if they were entitled Vol. I. and Vol. II. of one book, though distinct titles indicate to the purchaser their different subjects, 'The Rod in India' henceforth treating only of such fish as are to be taken in rivers and estuaries, those to be captured in reservoirs being relegated to 'Tank Angling.' Though it is a division sometimes difficult to maintain, it seems the fairest to my readers, who will thus have both books kept from being too bulky and too expensive, and also have it in their power to suit themselves as to whether they shall become the happy possessors of either one or of both.

Still, in following this division of subjects as regards old matter, I have allowed myself to temporarily depart from it as regards new matter which must eventually be relegated to 'Tank Angling,' because this plan seemed better than letting new discoveries run the risk of dying with me, if I kept them back from my fellow-fishermen till I had an opportunity of writing a second edition of 'Tank Angling.'

Extracts and letters from friends are shown in smaller type, not as being less valuable, but simply to distinguish them, lest I should be unduly credited with them.

The valuable quarto two-volume work, 'Day's Fishes in India,' having, on his demise, passed into the hands of the publishers, Messrs. Bernard Quaritch, I am under the great obligation of being still permitted to make extracts therefrom, and have accordingly copied from that work my illustrations of the Seetal and the Batchwa.

Messrs. C. Farlow & Co., 191 Strand, London, W.C., have given me the following thirty-two electros: telescopic gaff, gaff to screw on to handle, gaff to lash on to handle, as figured at p. 19; spring balance, p. 38; Dee minnow, baited and unbaited, p. 69; Archer spinner, baited and unbaited, p. 72; Chapman spinner, baited and unbaited, p. 72; hog-back fly spoon, p. 128; light-landing net, p. 190; the Jardine gag, p. 209; prawn tackle, baited and unbaited, and of two sorts, p. 254; Giri spoon, p. 275; hog-back spoon, p. 275; scale of swivels, p. 278; collapsible line drier, p. 296; knob or button end to rod, p. 301; snake rings, p. 302; five illustrations of bait cans, p. 307, 308; winch case, p. 309; hackle-holder, p. 310; table vice, p. 310; gut twister, p. 311; rod box, p. 320.

Messrs. S. Allcock & Co., Wholesale Manufacturers, Standard Works, Redditch, have given me the following sixteen illustrations: jointed net ring, open and closed, p. 20; triangular net open and closed, p. 21; baiting needle, p. 66; Coxon spinner, baited and unbaited, p. 71; Rohu hooks, p. 123; Jardine live bait tackle of two sorts, p. 141; rod rest, p. 142; sizes and breaking strain of rust proof wire gimp, p. 208; disgorgers, p. 209; gorge hook, p. 236; lockfast ferrule, p. 301; Norwegian knife, p. 309.

Messrs. William Bartleet and Sons, Wholesale Manufacturers, Abbey Mills, Redditch, have given me four electros: scale of Limerick hooks, p. 117; scale of Mahseer treble hooks, p. 119; scale of Pennell-eyed Limerick hooks, p. 120; scale of Pennell-eyed Sneck-bend hooks, p. 121.

The Army and Navy Co-operative Society, Limited, 105 Victoria Street, Westminster, London, S.W., have given me three electros: Geen's Richmond spinner, trout size, baited and unbaited, p. 218; fly scissors, p. 310.

Messrs. J. Warner & Sons, Wholesale Manufacturers, Hewell Works, Redditch, have given me an electro of their patent wedgefast winch fitting, p. 294.

Of Messrs. L. Upcott Gill, 170 Strand, London, W.C., publishers

and proprietors of 'The All Round Angler,' by John Bickerdyke, I have purchased duplicates of the following thirteen diagrams of tackle which appear in that work : knot for attaching drop fly by loop, p. 183 ; frog bait in two sizes, p. 230 ; method of whipping on a treble hook, p. 280 ; knot for hook with metal eye turned down, p. 281 ; knot for hook with metal eye turned up, p. 281 ; Turle knot, p. 282 ; jam knot in two stages, p. 282 ; knot for worn fly, p. 283 ; knot in three stages for tying a collar, p. 304 ; knot for tying a loop, p. 304 ; knot for finishing the splicing of a rod, p. 311.

The knot and the angles of vision shown at pages 99 and 283, are from memory of the leaves of the *Fishing Gazette*.

The eighteen full page plates, and the remaining twenty-six marginal illustrations have been made specially for this work.

To my critic again—"Spare the Rod."

To the angler generally, and specially to old friends and old readers and helpers, I must be allowed, in conclusion, to cordially wish them once again "the good sport which this book aims at helping them to obtain."

H. S. THOMAS.

TIVERTON, DEVON,
September, 1897.

PREFACE TO SECOND EDITION.

THIS Second Edition is nearly half of it a new book.

In my First Edition I sought the co-operation of brother anglers. Kindly have they responded, some direct to myself, some through the medium of the Press. Many told me things that I had learnt myself in the interim: such matter is introduced afresh in this edition as my own, as it none the less is; but I thank correspondents all the same. Some told me things I did not know; such matter, wherever it appears, is honestly acknowledged by name or initial, both that the reader may know who is the authority for it, where I am at liberty to quote the full name, and also that he may recognise the advantage of the kindliness.

All such communications as have been made direct to myself, and consequently appear for the first time in print, have been printed in the same type as my own matter. Such communications as have come to me through the Press, even though it may be kindly stated in them that they were penned in answer to my invitation, are, as extracts, printed in smaller type; partly to distinguish them from what is quite new, and partly to save my book from becoming unwieldy, not in any way to imply less value.

Of these last communications I have had to clip some not a little because they repeated what was to be found elsewhere in the book. I trust I may be forgiven by the writers.

I have enlarged the page so as to be able to present better plates, but I have not enlarged the type to suit. If I have sinned against printing rules in this matter it is that I may keep my book from being too bulky to be still an angler's companion.

I have admitted in the contributions of others though, as promised

in the earlier preface, I have excluded from my own matter narrative of sport achieved, because I thought it likely to prove interesting, and an incentive to take to Indian fishing. And this it is hoped the Chapter on Fishing Localities will help my readers to find their way to, as the rest of the book may aid them to accomplish.

If old hands, nevertheless, find nothing new in these pages, will they kindly consider that it is mainly their own fault for knowing too much. But why should I apologise to such, for really good fishermen will not expect to learn, and if they concur, even in part, they are sure to be friendly.

It only remains to cordially wish you the good sport which this book aims at helping you to obtain.

H. S. THOMAS.

GUERNSEY,

July, 1881.

P R E F A C E.



TO THE ANGLER.

I PROMISE that you shall not be wearied by long yarns about the fish that I have caught; the object is to set your rod bending, and your heart leaping.

Do not be afraid of the natural history. There is not more of it than a good fisherman ought to know, and as it is expressed simply I trust it is not very uninteresting.

TO THE NON-FISHERMAN LOVER OF NATURAL HISTORY AND PISCICULTURE.

As you may not care to wade through the whole book for the bits likely to interest you, and as those bits are necessarily scattered where they are applicable, a special * Appendix will enable you to pick them out without trouble or waste of time.

You must kindly excuse the unscientific language used for the sake of fishermen pure and simple, who will probably be my chief readers. I plead and follow herein the example of that distinguished and pleasant naturalist, Charles Waterton, who had both the courage and the position to be able to say he had "confined himself to a few simple words in preference to a scientific jaw-breaking description;" so that young naturalists might understand him at once, which was all he aimed at.

Ye giants in natural history, for whom this simple little book is scarcely fitting fodder, but who may yet dally with it for half an hour for the sake of the few crumbs to be gathered here and there, bear

* Now omitted.

with me if in my little effort to follow, *longo intervallo*, the style of such a naturalist as Waterton, I timidly shelter myself under another quotation from his *Essays on Natural History*; it will serve to explain my reasons for taking him for my model. "I verily believe that if an unfortunate criminal just now were defended by a serjeant-at-law without his professional wig and gown, and then condemned to death by my lord judge in plain clothes, the people would exclaim 'that poor devil has not had a fair trial.' So it is with natural history. Divest a book on birds, for example, of its unintelligible nomenclature, together with its perplexing display of new divisions, and then it will soon be declared deficient in the main points, and be condemned to slumber on the dusty shelf. If in this little treatise on monkeys I shall succeed in imparting a love for natural history into the minds of my young readers and at the same time convince them how much is gained in the field, and how little in the closet, my time and labour will be well repaid. I will introduce no harsh words to confound them, nor recommend to them systems which at best are unsatisfactory inventions. All that I have got to say shall be placed before them in so clear a point of view, that every reader, be his education light or solid, will be able to comprehend my meaning, and nothing more than this can be required." Like my model, my aim in this respect is to impart a love of natural history to fishermen, and to gain amongst them more friends and coadjutors for pisciculture in India. In my *Official Reports to Government* also, all the members of which are not necessarily pisciculturists, I have ever studiously excluded all hard words from the text, and have pushed them unceremoniously into the margin; so also in this little book any phraseology of science will be found condemned to a footnote, or to the close company of a plain Saxon synonym. Thus disposed no exception can well be taken to its presence, especially in the names of fish where, without such accuracy of expression, it would be hard to know for certain which fish it was that was being spoken of.

But lest this seeming rudeness to natural history should scare away some that might otherwise do me the honour of at least a cursory reading, I think I had better present my letter of introduction. The following letter and the handsome accompanying Medal, which I had the unexpected honour of receiving from the *Acclimatisation Society of Paris*, is the best evidence that, though in a humble way,

I have still given some painstaking attention to the subject on which I write:—"J'ai l'honneur de vous informer que la Société d'Acclimation, sur la proposition de sa Commission des récompenses, vous a décerné une médaille de 1^{ère} classe pour vos travaux de pisciculture dans l'Inde."

TO THE CRITIC.

"Spare the rod!!"

ACKNOWLEDGMENTS.

For two of my plates,* the Mahseer and the Murrel, I am indebted to the courtesy of Dr. Bidie, Curator of the Government Museum in Madras, who very kindly afforded every facility to my draughtsman. The *Barilius Bakeri* has been copied by permission from Dr. Day's 'Fishes of Malabar.'

H. S. THOMAS.

MANGALORE,

April, 1873.

* These plates have not been used in the present edition.

CONTENTS.



CHAPTER I.

INTRODUCTORY.

	PAGES
The objects of this book—As good fishing to be had in India as in England, 1	
—Author's apologies for himself and his subject, 2—Fishermen the best friends of Pisciculture, 3—Repetition of former works on general fishing avoided, and remarks confined to purely Indian fishing, 4—Continued co-operation of anglers sought—Contributions and assistance acknowledged, 5—Anglers in India are comparatively few, 6	1-6

CHAPTER II.

THE MAHSEER.

A sporting fish, 8—Shows better sport than the salmon, 9—The necessity for being prepared for its sudden rush, 9, 10—Advantages of a pliable rod, 10—Winch friction, 11—Pressing your fish, 12—Preventing sulking, 13—Continuity of pressure, 14—Manner of pressure, 14-16—Estimating weight of fish before landing it, 16—Landing—Shelving—Handling, 18—Gaffing, 19—Netting, 20-22—Killing, 22—Edibility of Mahseer—Attendant necessary, 23	8-23
--	------

CHAPTER III.

THE NATURAL HISTORY OF THE MAHSEER.

Its names, 24—Its description by Dr. Day, 25-27—Different sorts of Mahseer, 27-34—Manner of drawing Mahseer—Manner of colouring Mahseer, 29—Prolonged lips not a sexual distinction, 32, 33—A stocking difficulty—It is not confined to Bengal, 33—Etymology of the name Mahseer, 34—Its size,
--

34, 35—Its preference for rocks—Sanderson's fish, 35—A rare buffalo, 36	
—Calculating size by length of Mahseer, 37—Weighing Mahseer, 37-41—	
The migratory habits of the Mahseer, 41—Not spent and unwholesome	
after spawning, because of peculiarity of spawning—How to judge of time	
of spawning, 42—Reason for the peculiarity in spawning, 43—Inventory of	
the contents of Mahseer's stomach, 44—Conclusion therefrom that the	
Mahseer is a bottom feeder—The same conclusion from the formation of	
the outside of mouth—Power of sucking up Molluscs, etc., from the	
bottom, 45—Power of pharyngeal or throat teeth, 46—Are they shed	
periodically, 47—Power of jaw also, 48	24-48

CHAPTER IV.

CIRCUMVENTING THE MAHSEER.

Not to be caught by the same rules as English fish, 49—The clearest water the	
best for fishing—Except in the Ganges, 50—And with live bait—Affected	
by cold winds, 51—The Mahseer a fish-eater though a carp—Extraordinary	
power of jaw—Hooks crushed by it—Power of rigidifying muscles of the	
mouth, 52—Importance of bearing in mind the Mahseer's bottom feeding	
habits—Artificial fly as a bait for Mahseer, 54—Advantages and dis-	
advantages thereof—Less killing than spinning—Should always be avail-	
able in addition to spinning, 55—Special necessity for keeping out of	
sight, 56	49-56

CHAPTER V.

SPINNING FOR MAHSEER.

Live bait <i>versus</i> dead bait, 57—Importance of keeping out of sight, 58—	
Weight, size, and advantages of spoon bait, 59—Magic, 60—The size of	
spoon a rod can throw—Phantom minnow, 61—Spinning with dead fish—	
A pliable rod advocated—Stiff Mahseer rod deprecated, 62—Castle Connel	
rod, 64—Modes of baiting with dead fish, 65—Baiting needles—Enlarged	
sinkers—Dee tackle, 68—Geen's Richmond spinner, 69—Coxon spinner, 70	
—Archer spinner—Chapman spinner—Fine tackle desirable, 72—Sort of	
fish for bait, 73—Best size for bait, 74—Large fish deter small fish from	
anticipating them—Good fisherman generally kills better fish than an	
indifferent fisherman—Large fish wary, 75—Fish able to communicate	
ideas to each other, 76—Fish think and have brains, 77—Examples of	
birds, beasts, and insects communicating ideas, and the analogy to be	
drawn therefrom in favour of fishes, 79—Audibility of sound dependent on	
rapidity of vibrations, 84—Gregarious fish communicate, 85—Salt preferred	
to spirits for preservation of bait, 86	57-86

CHAPTER VI.

HOW, WHEN, AND WHERE TO FISH FOR MAHSEER.

PAGES

Spinning against and across stream—Habits of small fish, 88—Velocity at which to spin, 89—Object of bait revolving on its own axis—Manner in which big fish surprise their food, 90—And sometimes chase it, 91—Educated fish—Prey chiefly on sick fish, 93—Eye of the angler fish—Short-sightedness of fish through water—Short-sightedness the protection of small fish, 94—How to spin when bait is being followed, 96—Imperative necessity for keeping out of sight, 97—Refraction in water, 98—Stalk your fish, 100—Manner of spinning with a fly top, 101—Best season of the year for fishing, 103—Best hours of the day for fishing, 104—Rivers in which to fish, 105—The parts of a river to be fished, 107—Pool fishing, 108—Fishing deep, 109—Tyranny among fish, 111 88—111	88—111
---	--------

CHAPTER VII.

FLY FISHING FOR MAHSEER.

Fishing with a Salmon fly, 112—The <i>rationale</i> of it, 113—Colours of flies, 114—Sizes of flies, 115—Sizes of hooks, 116—Scale of Limerick hooks, 117—Scale of Mahseer treble hooks, 119—Scale of eyed Limerick hooks, 120—Scale of Sneck bend hooks, 121—Scale of eyed Kirby hooks, 122—Scale of Rohu hooks, 123—The Blackamoor fly, 124—The Cock-o'-the-walk—The Smoky Dun—Sizes of flies, 125—Hooks drawing in India—Tying flies on eyed hooks—Manner of fly fishing, 126—Fish slowly—Striking a fish—Position of the rod, 127—Fishing when followed, 128—Hog-backed fly-spoon, 129 112—129	112—129
--	---------

CHAPTER VIII.

GRAM FISHING FOR MAHSEER.

Size of fish caught by gram—Tried unsuccessfully where fish are not educated to it—W. F. F.'s method, 130—Procuring and preparing the bait—Manner of baiting hook, 131—Previous ground baiting—Size of hook—Manner of fishing, 132—Place and season for fishing, 132—134—J. A. B.'s suggestion, 135 130—135	130—135
---	---------

CHAPTER IX.

LIVE BAIT FISHING FOR MAHSEER.

Colonel Parson's method of fishing in coloured water—Size of live bait, 136—Method of baiting—December and January blank months—Peculiar-eyed	b
---	---

hooks—Eyed hooks rusting gut—Sizes of hooks used, 138—Usefulness of eyed hooks—Method of preparing snood, 139—A 70-lb. fish—The bag made by this method, 140—Jardine tackle, 141—*Ophiocephalus gachua* unsuited to this sort of fishing, 142—Rod rest, 143 136-143

CHAPTER X.

PASTE BAITING FOR MAHSEER AND OTHERS.

The sorts of fish to be taken by a set paste bait, 143—Ingenious night-line—With the rod in hand, 144—With the rod set—Good for Rohu at night-fall, 145 143-145

CHAPTER XI.

THE CARNATIC CARP.

Has a smaller mouth than Mahseer—The weight of Carnatic Carp, 146—Is something like a Chub, 147—The Indian coracle, 148—"Got it in his bones"—The first lesson—The places to fish—Throwing again in the same place, 149—Carnatic Carp congregate and wander like Dace, 150—Paddy-bird's wisdom—Playing the fish, 151—Keep to a swim, without overworking it—Fish reassured—Monkeys attract fish, 152—Taking a rapid, 153—"My Lord, if I had not caught you," 154—P.'s pip, 155—The rod, line, and tackle used, 156—Different baits tried, 158—Grasshoppers—Spoons, 159—Fishing alternate pools—How to make a coracle comfortable, 160—Edibility of the Carnatic Carp—Its manner of taking the fly—Fish blowing out the fly, 162—A fish's mouth is his hand, 163—Striking a Salmon, a Mahseer, a Trout, a Dace, a Carnatic Carp, etc., 164—Fishing on natural history basis—Striking fine, 165—How to grasp a rod—Characteristics of salmon and trout rods—Importance of selecting the right style of rod, 166—Distribution of Carnatic Carp—Hours for fishing—Don't fish fasting, 168—Dr. Day's description of the Carnatic Carp—Difficulty of ascertaining native names, 169 146-169

CHAPTER XII.

SMALLER FLY-TAKERS.

Small fish more accessible than Mahseer—Simple English names will be assigned to fish, 171—The *Chela argentea*—A clerical error—Other Chilwas—They will thrive in ponds—Their size, 172—The flies for them—Require quick striking—The hours to fish—The places—Can be taken with float, 173—Vernacular names of Chela—Frogs rising to flies—

162 Chilwas killed by one fly rod in 1½ hours, 174—Ten men's dinner caught by paste bait—Floating bran as "ground" bait—Dr. Day's description of Chela, 175—The Black Spot, or *Barbus filamentosus* and *B. Mahecola*, 176—Their localities—Their manner of taking a fly—Require the finest fishing—Are very shy—Swim in shoals, 177—Thrive in ponds—Taking hours—Dr. Day's description—*Barbus Chrysopoma*, or Olive Carp, 178—The lesser Barils—Their colours and size and localities—They are game little fly-takers, 179—The flies for them—Indian entomology, 180—They are shy—Fishing up-stream, 181—Knots, 183—Dr. Day's description of Barils, 185—The Indian trout or *Barilius bola*—Colonel Parson's paper on it—*Orcinus*, wrongly called a trout, 186—The colour and size of the Indian trout—The baits for it and the time for fishing—The places to fish in—They are a favourite bait for the Mahseer—Native fisherman's manner of noosing them—More places to fish for Indian trout, 187—They leap into the air—Have a large mouth, 188—Follow up the fly—The flies for them—They are predatory, 189—Months in which to fish for them—Localities that produce them, 190—Dr. Day's description of it, 191 171-191

CHAPTER XIII.

BOTTOM FISHING FOR LABEO.

Compared with roach fishing, 192—Mahseer fishers converted to it—Mr. Dunsford on conversion to my methods—A typical unbeliever therein, 193—Old methods good for certain seasons only, 194—My methods suitable to all seasons—A 77-lb. Catla, 195—Sorts of Labeo—Fishing in waves, 196—Special rod for it, 197—The free hook, 198—Fishing in rivers—Laxity of vernacular names—Rohu hook—Length of running line, 199—Sort of running line—The Nottingham stop for detective float, 200—Rohu, Mirga, Catla, to be taken by the same methods—Catla prefer the bait being off the ground—22-lb. Catla on 8-oz. rod—Ringol rods should be oiled, not varnished, 201—Rod top, ring—Paste baits, 202—Seasons for Labeo and other fishing—Ground baiting on a bamboo, 203—Influences of weather, 204—Professional diners out—Choosing your fishing-place—Levelling the bottom—Tackle-box—Manner of striking, 205—The cost of stocking with fry—Returning under-sized fish, 206 192-206

CHAPTER XIV.

FRESHWATER SHARKS.

How to get sport out of them—Mr. Dunsford's bags, 207—Rust-proof wire gimp, 208—The spinner which is suitable, 209—The gaff-hook, 209 and 19—Rod rest, 209 and 142—Pike gag—Disgorger—Season and weather—

Bagarius Yarrellii, their size, 209—Bag of 1065 lbs.—Places in a river affected by Goonch, 211—The tackle that is suitable—*Silundia Gangetica*, 213—*Macrones seenghala* (or *Tengara*), 214—Other Siluroids, 215 .. 207-215

CHAPTER XV.

THE SEETUL, BATCHWA, AND OTHERS.

The Seetul, its size and peculiarities, 216—Bait and manner of fishing adapted to it, 217—Its gameness—Richmond spinner, trout size, 218—Such a game fish worthy of more attention—Its habit of rolling on the surface, 219—Opinions of others, 220—*Mugil cascasia* as a bait—*Mugil corsula* as a dish, 221—The Batchwa, a sporting fish, 222—The bait and the fly for—Wire gimp recommended for use with flies, 223—Cherki and Tengara, 222, 223—The Puhta, 224 216-224

CHAPTER XVI.

THE MURRAL.

Nomenclature, 225—Similarity to a Pike—Habits—How, when, and where to fish for it, 226—Shooting it—Tackle for Murrel, 227—Live-bait fishing for—Different ways of live-baiting, 229—Dapping with a dead frog—Baiting with a live frog on Asiatic trimmer, 230—Other live-baiting—The life of a frog, 232—Frogs eating frogs—Its power of living out of water—Breathes air, 233—Buries itself alive—Thrives in ponds and wells—Exhibits parental affection, 234 225-234

CHAPTER XVII.

EELS.

Good eating—Size, 235—Setting night-lines for—Gorge hook preferred, 236 235-236

CHAPTER XVIII.

FISHING IN ESTUARIES.

Estuary fishing dependent on the tides, 237—Small fish ascend by back-flow, 238—*Polynemus tetradactylus* or *Bà-min*, 239—Colonel W. Osborn's paper on it—The water in which they are to be found, 240—They feed on the grey mullet fry—The best time in the tide discussed, 241—The rod preferred—The line and tackle—Flight of hooks—Baits, 242—The best way

to fish—The best side of the bridge, 243—Manœuvring in face of the enemy—Fishing localities, 244—Sporting season—The fish sickened by putrid smelling water—Strength and size of <i>Polynemus</i> —Striking, 245—The <i>Bà-min</i> Committee—M.'s experiences, 246—Pàmban Salmon, 247—Unnecessary strength of native tackle, 248—Dr. Day's description of <i>Polynemus</i> —The Cock-up or Nair fish (<i>Lates calcarifer</i>)—Vernacular names of—Size of, 249—Season and water for—Tackle and bait for—Runs out much line—Manner of spinning for—Of taking bait—Playing, 250—Time for fishing, 251—My own ideas, 252—Dr. Day's description—The Red Perch (<i>Lutianus roseus</i>)—The Grey Perch, 253—Prawn bait, 254—Elops—Megalops, 255—The Seer (<i>Cybius</i>), 256—Trailing spinning bait from sailing-boat, 257—Punctuality of sea fish may be taken advantage of, 258—Bottom fishing in the sea— <i>Chanos salmoneus</i> or Hyder's fish, 259—The peculiarities of its capture—Acclimatization of sea fish to fresh water, 260	237-260
---	---------

CHAPTER XIX.

FISHING ON HILL SANATORIA.

Pulney Hills—Stocked with Barils, 261—Boats available—The seasons for fishing—Further stocking of the lake—The Nilagiris, the story of their stocking, 262—Ootacamund lake—Bilikal lake, 263—The stocking of the Pykara river—The stocking with Trout, 265—Other possibilities of stocking—Carp and Tench, 266—Pachmarhi, 267—Kumaon—Poonah—Poonah neighbourhood, 268	261-268
---	---------

CHAPTER XX.

ROD AND TACKLE.

Rough and ready arrangements disapproved—Mahseer hooks, 269—Tackle shops mentioned, 270—Single vent hook, 271—Richmond spinner—The Coxon spinner—Archer and Chapman spinners—Phantoms, 272—Split rings, 273—Spoons, 273-275—Convenient loop-knot, 275—Soaking gut, 276—Rust-eaten gut, 277—Swivels, 278—Hooks drawing, 279—Knots for eyed hooks, 280—Winch, 283—Running line, 284, 288, 296—Check-winch, 286—My brake-winch, 289—The wedge-fast winch fittings, 294—Uniformity in heelplates desirable, 295—Line drying, 296—Gut, 297—Rod, 299—Button—Ferrules, 301—Top rings, 302—Rod rings, 302, 303—Sinkers—Whipping, 303—Flight of hooks, 304—Flies—Preserving tackle—Wax, 305—Lead wire—Copper wire—Whipping cord—Bait kettle, 306—Spring balances—Winch case—Knife, 309—Fly scissors—Hackle-holder—Table vice, 310—Gut twister—Splicing, 311—Otter, 312—Guide to ordering tackle, 315—Rod box, 319—Tackle box—Marking your gear, 320	269-320
--	---------

CHAPTER XXI.

FISHING GEAR AND OTHER SMALL BEER.

PAGES

Waterproof wading stockings not recommended—Short-tailed coat, 323—
 Broad-soled ankle-boots—Greasing them—Braces—Thick socks—Leech
 gaiters, 324—White clothes objectionable—Advantages of wading, 325—
 Crocodiles not to be feared, 326 323-326

CHAPTER XXII.

THE TAME OTTER.

Its habit of feeding—Its sense of smell under water, 328—Origin of its name
 —Its similarity to the dog, 329—Its easy domestication—Its capacity for
 showing sport—Its utility as a means for catching fish—Its destructiveness
 in a wild state, 330—Anecdotes about otters, 332—Its scientific nomen-
 clature and description, 333—Peculiar formation and use of its tail, 334—
 Other remarks on it—Manner of rearing them, 335—Their end, 336.. 328-336

CHAPTER XXIII.

SPAWNING.

Artificial breeding in England, 337—Fry in rice-fields—Different ways of
 spawning, 338—Polygamy in fish—Fish ova in the rivers and in the
 sea, 339 337-339

CHAPTER XXIV.

STOCKING PONDS.

Sport might be had by it—The Vallum pond experiment, 340—Labeo breeding
 in ponds, 341—Proper selection of species—Dry and cultivate your pond
 —Source of water supply to be considered—Snail breeding, 342—The
 weed to put in—Overflow, 343 340-343

CHAPTER XXV.

MISCELLANEOUS.

Avadavats going to bed, 345—Hooking crocodiles, 346—Spearing crocodiles—
 Difference between crocodile and alligator—The Garial, 347—Crocodiles
 have their uses—Suffocating a porpoise and a whale—Simple means of

making a well in a boat for live bait, 348—Oxygenating water for keeping live bait—A fish upside down rendered powerless—Fish renewing their scales—The lateral line—Sea-fish acclimatized to fresh water—Muddy fish improved in spring water, 349—Fish's sense of knowing where the water is—The pain given by anglers, 350—Do fish talk?—Do fish sleep? 352—A fish's manner of swimming, 355—Habits of Kingfishers—Fish-eating flowers—A paper scent—White ants—Elephants' hair—The size of the river affects the size of the fish, 358—Growth and feeding of fish—Stuffing fish, 359—Recipes for arsenical soap, 361—Injurious to teeth—Corrosive sublimate—Preserving specimens in spirits, 362—The cautious use of carbohc acid, 363—Loch Lomond anglers, 364 345-364

CHAPTER XXVI.

FISHING LOCALITIES.

Co-operation of anglers solicited and acknowledged—The best maps to procure 365

MADRAS PRESIDENCY.

Bellary District: W. H.'s futile trip in it—Possible locality, 366. *South Canara District*: Holds Mahseer, &c.—Chàrmàdy—Neriya—Kàrkàl, 367—Kirebàg—Sampaje—Siràdi—Uppinangady—Subramani—The Comar-dàri—The Yennekal-holle Wondse, 368—Fever—Jadkal—Màla—Cooloor—Nàgawadi—Biranthadaka—Dharmastala—Mangalore—Cicily—Cundapoor, 369—Mudràdi, 370. *Coimbatore District*: Mètapolliam—Nellatorai—Tèkàmpatti, 370—Puthur—Chengal—Shittuguni—Pillùr—Kadukai, 371—Nirali—Pèrali—Taimalai—Attapàdi—Shermangundi—Gopanèri—Kàramadi, 372—Sirumugi—Kanayampoliam—Animalais, 373. *Madura District*: Pàmben—Periàr—Pulney Hills—Pirmèd—Stonehenge, 373—Ràni River, 374. *Malabar District*: Tullipurmbu—Billipatam—Chupurapadu—Surukundapuram—Kogem—Eroocur—Iratti—Kishur—Gamoth—Anjeracoondy—Canooth—Mahe—Parakudu—Cootyaddy, 374—Beypoor—Areacode—Edda—Mummah—Maumbat—Nellambur—Eddamunnah—Yeddakura—Tirvangady—Mallapuram—Manjairy—Angadipuram—Alanalur—Pandikàd—Pàlgat—Cudalloor—Cottampally—Wurracunchairy—Colungodi—The Cubbany—The Noogoo—The Moyaur, 375—Manan-toddy—Bawally—Caukancotta—Gunnapaddyvatam—Sultan's-battery—Gudalur—Munaur—Attapàdi—Shermangundi—Gopaneri—Eddawarra—Nadghàny—Mahe, 376. *Nellore District*: The Muri—Kistnapatam, 377. *Salem District*: Hoginkal—Pennàgaram—Sholapàdi, 377. *Tanjore District*: No Mahseer, but other fish—Tanjore town—Negapatam, 377—Tank fishing, 378. *Tinnevely District*: Courtallum—Pulliary Pass—Paupanassam—Arienkavu—The Tamberapoorny, 378. *Travancore State*: Anglocoorchi—Toracadu, 378. *Trichinopoly District*: Trichinopoly anicut, 379. *Mysore Territory*: Very much plied with nets, cruives, and poison—Tìrthahalli—Màlùr—Mandagadde—Sacrabyle—Shimoga—Bàle-

hannur — Calasa, 379 — Honsoor — Chunchincuttay — Mandagherry — The Hemavatty — Hansogee — Rāmnāthpoor — Haggadavencottah — Carken-cottah, 380 — Manantoddy — Nungengode, 381. <i>Coorg</i> : Verajendrapet — Wottakuli — Manzerabad — Māranhally, 381. <i>The Deccan</i> : Secunderabad, 381	365-381
---	---------

BOMBAY PRESIDENCY.

<i>North Canara District</i> : Gairsoppa — Kālanaddi, 382 — Karāchi — Quetta — Barbar Kuch — Hurnai, 383 — Poonah — Ganjam — Vizagapatam, 384 — Jeypur — The Machkunda — Matam — The Kolāb, 385 — Kondakemberu — The Garepiro — Motu — Podiya — Gorgopilley — Salim — The Potera, 386. <i>The Panjab</i> : Mr. C. S. Kirkpatrick's letter — Delhi — Ambala — Simla — Jullunder — Hoshiapur — Gurdaspur — Lahore — Gujranwala — Jhelam — Rawal Pindi — Kashmere — Raniket, N.W.P. — Allahabad — Calcutta, 387 — Merut — Toondla — Durbangah — Baptiali — Rohtak — Hissa — Delhi — Lahore — Shalimar — Kunchui Kapul — Waga — Batala — Amritsa — Alliwāl — Karnāl — Kohtak, 388 — Chitor — Ajmere — Khandwa Line — Maundsaur — Newtakka, 389. <i>Burmah</i> : Mandalay, 389 — Chin Hills — Manlon Choung, 390 — Nampoung — Bharno — Namsiri Choung, 391 — Namlee Ka — Kachin — Sadon — Myitkyina — Uru — Mogoung — Nampoung — Taping — Irrawaddy, 392	382-392
---	---------

BENGAL AND NORTH-WEST PROVINCES, &C.

Extract from—

"K.'s" letter to the Field, 9th October, 1869: The Poonch — The Jhelum, 395 — Sport — Fly recommended by "K," 397 — Size of his spoon, 402. "Doon's" letter to the Asian, 2nd September, 1879: Mirzapore, 402 — Rewah — Buroundah — Yellow fly — Dark blue fly — Indian Trout — Allahabad District, 403 — Pathurpore — Koolsara — Endorses the Black-moor fly — Sohra — Khurkha — Mai — Kohrai — Sirsa — Grey fly, 404. "Doon's" letter to the Asian, 14th October, 1879: Jhansi — The Pahooj — The Barbarie — The Betwa — The Dessaun — Trout in the Barbarie, 404 — Oorcha — Orange fly and dark yellow fly — Black and red fly — Red spinner — The black spinner, 405 — Nowgong — Mow — Rāneepore — Chirgaon — Goolara — Dhunna — Lullutpore — Hardwār, 406. "Doon's" letter to the Asian, 28th October, 1879: The Ganges — The Song — The Sooswa — Dehra — Kalapani — Kansaras — Jamun Khatta — Tupobun — Rickee — Khasee — Hurdwar — Myapore Bridge — Kunkhal — Asufgurh — "Kooties" — Bijpore, 407 — Meerut — Spearing fish — Roorkee — Puthri — Fategarh — Cawnpore, 408. "L. F.'s" letter to the Asian, 23rd December, 1879: Laour — A grand bag, 408. "Pale Face's" letter to the Asian, 25th May, 1880: Bata — His flies, 409 — The Jumna — The Arson — The Suswa — 5-lb. Trout — The Ganges — A night line, 410 — Rikhikare — Nagul Ghat — The Rāmgunga — The Kosi — Rāmnagur, 411 — Sialkot — Poonah — Dav, 412. "F. M. M.'s" letter to the Asian, 25th November, 1879: Roorkee — Hurdwar — Mirepoor, 413. "Poonghee's" letter to the Madras Times, 29th July, 1878: Burmah — Assam — Sylhet, 413 — Jalpaigori — Afghanistan — Kurrum, 417 ..	395-417
---	---------

ILLUSTRATIONS.



FULL PAGE.

PLATE		
I.	<i>Barbus tor</i>	To face page 28
II.	„ „	„ 30
III.	„ „	„ 32
IV.	„ <i>Carnaticus</i>	„ 146
V.	<i>Chela argentea</i>	„ 172
VI.	<i>Barbus filamentosus</i>	„ 176
VII.	<i>Barilius Canarensis</i>	„ 180
VIII.	„ <i>bola</i>	„ 186
IX.	<i>Labeo calbasu</i>	„ 192
X.	<i>Wallago attu</i>	„ 208
XI.	<i>Bagarius Yarrellii</i>	„ 210
XII.	<i>Notopterus chitala</i>	„ 216
XIII.	<i>Pseudentropius garua</i>	„ 222
XIV.	<i>Ophiocephalus striatus</i>	„ 226
XV.	<i>Polynemus tetradactylus</i>	„ 240
XVI.	<i>Lates calcarifer</i>	„ 250
XVII.	<i>Megalops cyprinoides</i>	„ 256

IN THE LETTERPRESS.

	PAGE
The gaff hook, with collapsing or telescopic handle .. .	19
„ that screws into a handle .. .	19
„ that lashes on to a handle .. .	19
Jointed landing-net ring, open and closed .. .	20
Triangular landing-net, open and closed .. .	21
Spring balance.	38
Wooden steel-yard .. .	41
Baiting needles.	66
Single vent-hook tackle, with special sinker, for dead-bait spinning for Mahseer	68

Dee minnow tackle, baited	69
" unbaited	69
Geen's Richmond spinner, mounted for Mahseer	69
Coxon spinner, mounted for Mahseer	70
" English mounting, baited	71
" " unbaited	71
Archer spinner, baited	72
" unbaited	72
Chapman spinner, baited	72
" unbaited	72
A fish's angles of vision	99
" " 	109
Scale of Limerick hooks	117
" Mahseer treble hooks	119
" Pennell-eyed Limerick hooks	120
" " sneck-bend hooks	121
" eyed Kirby hooks	122
" Rohu hooks	123
Hog-back fly-spoon	128
Parson's live-bait tackle	138
Jardine live-bait tackle	141
Rod rest	142
Loop knot for drop flies	183
Francis knot for drop flies	183
My knot for drop flies.. .. .	183
Knot for attaching fly-collar to running line, by day	184
My knot for attaching fly-collar to running line, by night	184
Light landing-net	190
Knot for detective float	200
Sizes of rust-proof wire gimp.. .. .	208
The Jardine gag	209
Disgorger	209
<i>Bagarius Yarrellii</i> and man	210
Geen's Richmond spinner, trout size.. .. .	218
Dead frog baited, large	230
" small	230
Gorge hook	236
Prawn tackle	254
The Ootacamund Lake	263
Spoon-bait, mounted as I recommend	274
The Giri spoon.. .. .	275
Hog-back spoon	275
Double loop knot, for spinning-bait	276
Scale of swivels	278
Whipping on a treble hook	280
Knot for turned-down metal-eyed hook	281
" turned-up metal-eyed hook	281

	PAGE
Turtle knot	282
Pennell's jam knot, for eyed hooks	282
Improved jam knot, for eyed hooks	283
<i>Fishing Gazette</i> knot for eyed hooks	283
Knot for worn fly	283
My brake-winch	290
Warner's wedge-fast winch-fittings	294
Farlow's collapsible line dryer	296
Button end of butt of rod	301
Lock-fast ferrule	301
Rod top ring with revolving centre	302
Snake rings	302
My rod ring	303
Knotting gut together	304
„ loop in gut	304
Bait cans, of three sorts	307
Winch case	309
Norwegian fishing knife	309
Fly scissors	310
Hackle-holder	310
Table-vice	310
Gut-twister	311
Knot for finishing off splicing of rod	311
Rod box	320
Arrangement for commanding the overflow	344
Movements of fish in swimming	355

THE ROD IN INDIA.



CHAPTER I.

INTRODUCTORY.

Apologia pro libro meo.

NOT a few lovers of the gentle art are condemned by their calling to pass the best years of their existence in India, sighing, amongst other things, for the banks of Tweed, or Usk, or other familiar stream in the old country, looking forward to the too far distant time when furlough, or other favouring circumstance, shall take them home to the land where they may again beguile the speckled beauties from the stream, or once more do battle with the lordly salmon. To such it may be a comfort to know that they need not wait so long for the "good time coming," that there is as good fishing to be had in India as in England; and to minister such comfort to exiled anglers is my present philanthropic object.

I fancy there are not a few fishermen in India, good fishermen too, who know well how to fill a basket in England, who are, nevertheless, entirely at a discount in India. Indeed, I have met such, and do not mind confessing that I am myself a lamentable instance of that distressed class, for whether or not I knew how to circumvent a trout in England, I certainly could make nothing of the Mahseer in India, and lost all too much time in learning the manners and customs of that oriental gentleman. Sad indeed is the retrospect of golden opportunities lost! What would I not have given to any one who would then have put me in the way of seizing them! To give this helping hand, the benefit of my little experience, to brother anglers is my

object in writing. It is not that I have the assurance to think I am the right man to undertake the task. On the contrary, I know that there are many who have enjoyed much better opportunities of sport in Indian waters, and who have consequently more experience, as well as better leisure. They are the men who ought to write a book on the subject, but they do not, and it is not my fault that they do not. It is not that I have nothing better to beguile the tedium of a P. and O. steamer voyage back to India, though that may be my opportunity for scribbling. It is that I have an idea it is the sort of thing some fellow ought to do out of purely philanthropic motives for his brother anglers; and as nobody else will do it, I suppose I must. It seems so selfish to have discovered that there is right good fishing to be had, and then to keep it to oneself. In short, I cannot do it; so "here goes."

There may be some six hundred books or thereabouts on fishing in general, but there is not one that I know of on fishing in India. The subject is scarcely overwritten, therefore, in spite of the six hundred books aforesaid.

Thus I wrote some three-and-twenty years ago, and I will let it stand as indicating my reasons for first writing, though I may have picked up a crumb or two of knowledge since then.

Englishmen have few relaxations indeed in this land of their exile. Very, very differently situated in this respect is the Public Servant in India and his congener in England. "All work and no play makes Jack a dull boy," but I venture to say from experience that an energetic Mahseer telegraphs such an enlivening thrill of pleasurable excitement up the line, down the rod, and through the wrist and arm, to the very heart of the man who has got well fixed, that it makes his pulse beat quicker, and is altogether as good as a tonic to him. Be he ever so cool in the management of a heavy fish, even the old hand cannot but experience a certain amount of exhilaration,

"The stern joy which warriors feel
In foemen worthy of their steel."

I maintain that a few such electric currents before breakfast do a man good, and send him in to his daily work much more wide-awake and cheerful. All other electric batteries are nothing to it. Considering the amount of refreshing good it does a fellow, it is a wonder

an enlightened Government does not keep a man in rod and tackle, and allow treble hooks to be included in the annual "Sadirwarid." * In the graphic language of the Eastern domestic, wishing loyally to commend a dish to the languid appetite of his overworked master, it is "Good for master's body, all same like one tarnic."

Furthermore a successful fisherman is calculated to take more interest than his neighbours in a matter which has grown to be acknowledged in England, in Europe, in Australia, in New Zealand, in Canada, in America, in Japan, as of national importance, to wit, pisciculture, or in other words, the means of increasing the supply of animal food yielded by fishes. A really good fisherman is a close observer of piscine nature, and not unfrequently of insect nature too, and is therefore likely to bring more experience than others to the furtherance of the object. If in my official report on Pisciculture in South Canara in 1870, my earliest literary plunge into Indian waters, I was able to give any information about the habits of the Mahseer, its food, its time, manner, and place of spawning, and the consequent dangers to which its fry are exposed, and the protection that can be afforded them, it must honestly be confessed that it was entirely to my fishing-rod that I owed it. These fish live in such deep and strong waters, among so many rocks and snags, that they are not approachable by the net till the rivers have subsided in the dry season, till the fish, formerly spread all over the river, have congregated into the fewer remaining pools. It is obvious, therefore, that if net-caught specimens had been the only ones available, conclusions on their habits would necessarily have been formed on data very much limited as regards both locality and time; limited, in fact, to places and periods which my rod proved would have given no information at all, for the net-caught fish would have been only those captured in the lower waters and in the dry season, whereas my rod showed that it was in the high waters that they spawned, and that they had completed that operation before the dry season. By the friendly aid of my rod only was I able to take Mahseer at intervals over several months, and in both the upper and lower waters of the rivers. The native anglers are very poor hands at catching the Mahseer, and I should have leaned on a broken reed indeed had I been dependent on them, for they were very few specimens that I got by that means,

* An annual indent for pens, pencils, knives, scissors, needles, thread, and such like miscellaneous office requirements.

not half a dozen in all, whereas by the aid of my own rod I was enabled in the early days of my first edition of "The Rod in India" in 1873, to examine the ovaries and the stomachs of between seventy and eighty Mahseer, and to gather therefrom reliable evidence of the state of advancement of the former at different times and places, as well as the most satisfactory proof of what the fish was in the habit of feeding upon. And since then I have continually examined I know not how many fish of sorts to verify and extend my knowledge. I say this not from any conceit with reference to my own individual fishing, but in common fairness to rods in general, in acknowledgment of how greatly pisciculture is dependent on the aid of angler sportsmen, as well as by way of encouragement to observant fishermen, and in explanation of one of my motives in writing on fishing; for my idea is that if I can do anything towards making a man a successful fisherman, I have advanced one step towards making him, if not a pisciculturist, at any rate an aider in acquiring knowledge on the subject, and thus an advancer of its progress.

Very much has been done at home for the advancement of the science of pisciculture by the newspaper communications of sportsmen, and though the matter thus obtained is considered and arranged and utilized by the pisciculturist, it is to the intelligent angler that he is after all indebted for most of his facts. In this respect the Indian pisciculturist labours under peculiar disadvantages, for he not only has to work through the medium of foreign languages, but also without the aid, as in England, of a thousand intelligent observers, all ready to communicate freely through the medium of special papers like *The Field* or *Land and Water*. I write, therefore, also in the hope that anglers may be induced to lend their kindly aid from time to time towards increasing the knowledge of the habits of the fishes found in Indian waters, and as a consequence to forward the efforts of those seeking the best means of increasing the supply of this sort of food.

Still I write primarily for fishermen. In doing this, however, it is a little difficult to know how to write. Though there are many good fishermen in India there are also many who, from early absence from England, know practically very little about it, although they are ready enough to take to it, if they can only see their way to getting sport. I have, therefore, two opposite courses to follow simultaneously. I

have to make myself intelligible to the novice, and at the same time to endeavour not to weary the fisherman by re-writing what he has already read in different shape in some half dozen of the six hundred books already alluded to. By way of getting safely through this Scylla and Charybdis I must commence by presuming my reader's knowledge of books such as, "A Book on Angling," by Francis Francis, Publishers Longmans, Green & Co., Paternoster Row, London, in one volume octavo, price 15s., cloth; "The Sea Fisherman," by J. C. Wilcocks, Publishers Longmans, Green & Co., London; and if he has not read these books yet, I can only recommend him to do so, as it would be idle for me to go again over ground already so well and so pleasantly described. It is better that I should confine myself as closely as possible to the Indian side of the subject, and endeavour to give my reader only what he cannot get better elsewhere. Still it is impossible to do so altogether, and yet be intelligible to the tyro; when I am more than ordinarily tedious therefore to the practised fisherman, I can only hope that he will give me all he can spare of that commodity of which he is generally believed to have such a plentiful supply, to wit, patience.

If brother anglers reading these pages feel inclined to give me the benefit of their further experiences, I shall hope to embody or quote them in some possible future edition. The collected wisdom of all anglers in all parts of India might thus grow into a very complete book, sufficient to show the best means of securing the best sport available in different localities in India.

This invitation, thrown out in my first edition, has been very kindly responded to by anglers. Not a few have written to me direct, and others have contributed papers to the *Field*, and to the *Asian*, some professedly in answer to this invitation, others in the same spirit of helping fellow fishermen to sport. For myself I beg to tender cordial acknowledgments to all who have thus helped in what I must call the kindest manner. I am confirmed in the conviction, always fixed in my mind, that it is very rare for a good fisherman not to be a good fellow. For others, readers of this little volume, the result is happy, for they will not be confined to my ideas only, but will have the opinions and the experience of others also. Believing that my readers will be glad to have the views of others, as well as my own, and recognizing that India is too large a field for any one person to cover

unaided, I have endeavoured to bring together in this volume all the information kindly afforded by others. That contained in newspaper contributions will be found in Chapter XXVI., on Fishing Localities, the source and the *nom de plume* being always given. Some of my readers may find double interest in, and attach increased weight to, these contributions, from recognizing under a *nom de plume* a friend well known by them to be a master in the art.

Besides the contributions of unknown writers, I am able to give my readers two interesting communications, one from the pen of Colonel J. Parsons, and the other by Colonel W. Osborn, commanding 9th M.N.I. Sportsmen will find them both valuable.

The further experience had since 1873 has also enabled me to introduce not a little additional matter of my own.

If sportsmen think that the above invitation has resulted in any advantage to themselves, perhaps they will allow me to renew it in this edition. Though I cannot be sanguine that this book will live to a third edition, still stranger things have happened, and it is just possible that it may again come to pass that anglers, who have put themselves to the kindly trouble of co-operating through the press or direct, may find that, in the total of experiences put together, they get more than any one of them could individually contribute.

Anglers are in England a numerous class, whereas in India they form a very small minority of the lovers of sport. Whether for love, or for money, shooting of any sort, and more particularly heavy game shooting, is so much more difficult to obtain in England than in India, that many, who in England perforce content themselves with the rod, would in India be seduced by the ruder attractions of the boar-spear, the rifle, and the gun. For myself I can well remember a day in camp, "marked evermore with white," when rising at dawn I heard over my early cup of coffee the trumpeting of elephants, knew that there was a fair chance also of bison, sambar, and spotted-deer, knew also that there was a Mahseer river in the valley. In one corner of the camp hut was the battery, in the other were the rods and tackle. Which shall it be? I may get up to those elephants in a quarter of an hour, I may trudge ten miles and not get a shot. I know that I can make a certainty of the Mahseer. I chose the latter, and brought home six fine fish before breakfast, and never regretted my choice. But I think there are not a few who, in like circumstances, would unhesitatingly

have preferred the rifle to the rod. And thus it comes about that anglers are in India comparatively few. They are all too few to help each other adequately with information over so wide an area as India; all too few to make it worth while to write a book on the subject, except for the love of the thing, therefore there is all the more reason why they should continue to help each other as much as they can.

CHAPTER II.

THE MAHSEER.

“By sports like these are all their cares beguiled.”

GOLDSMITH.

OF the fish to be caught in Indian waters the best is, in my opinion, the Mahseer, the best, I mean, as regards sport, and we may as well begin with the best. Its size depends much on the size of the river in which it is found, as will be seen in Chapter III.

In my own opinion, and in that of others whom I have met, the Mahseer shows more sport for its size than a salmon. The essence of sport, or in other words of the enjoyment of any pursuit lies, I take it, in the exhibition of superiority therein, whether of skill or courage, not the exhibition for others to see, but the difficult attainment of it for our own satisfaction. It would be a tame affair to be pork butcher to a village pig, but to spear the “mighty boar” is quite another thing. Why? Where lies the difference? Simply in the fact that—

“Youth’s vigour, manhood’s fire,
Firm hand, and eagle eye,
Must he possess
Who would aspire
To see the grey boar die.”

Entering more or less into all sports, even into such peaceable pursuits as chess, whist, or billiards, there are a thousand different gradations of “the stern joy which warriors feel in foemen worthy,” whether mentally or physically, “of their steel.” It is the love of conquest. What is wanted is not conquered worlds, but “more worlds to conquer.” Who cares to pull out a dead pike on a night line? The pot-hunter, not the sportsman. To battle with a heavy salmon, or kill a good game trout on a very light rod and fine line, is quite another matter. From this

point of view it is that I say a Mahseer shows more sport than a salmon. Not that you can kill more of them, which you may also do, but that each individual Mahseer makes a better fight than a salmon of the same size. I am prepared to expect that on this point, as on most others not capable of being proved to demonstration, and perhaps in not a few of these last also, some will disagree with me. *Quot homines, tot sententiæ.* For my own part I can only say that my prejudices were all in favour of the salmon, both as being a salmon, a sort of lion of the waters, whom I had grown up looking on with respect from my childhood, and as being a fellow-countryman. But the Mahseer compelled me to believe in and honour him in spite of my prejudgment to the contrary.

The Mahseer's First Rush.—I came to the conclusion that though he might not make so long a fight of it as a salmon, he yet made a much more difficult one, because his attack was more impetuously vehement, his first rush more violent, all his energies being concentrated in making it effective, though his efforts were not, and from that very cause, could not be, so long sustained. Trying to account for this I had the curiosity to measure and compare the size of his tail and fins with that of his body, and I found that the superficial area of his propelling and directing power amounted together to as much as the superficial area of the whole of the rest of his body. The proportion which the tail and fins of a salmon bear to the rest of his body is very much smaller. The Mahseer having then so much greater means of putting on steam, and having also the habit of always putting it on at once energetically and unsparingly, it is readily intelligible that his first rush is a mighty one, and that, that made, his strength is comparatively soon exhausted. Other rushes he will make, but his first is the dangerous one. Then it is that the final issue of the campaign is practically decided. Be one too many for him then, and you may be grimly satisfied that all else he can do will not avail him; you may count on making him your own. Then it is that you must wait upon him diligently. If you have not got all free, the connection between you and your new friend will be severed within a moment of your making each other's acquaintance. If you have carelessly allowed the line to get a turn round the tip of the rod, or let any slack near the hand become kinked ever so little, or twisted over the butt, or hitched in the reel or a button, then it is that not a moment's law is given you

for the re-adjustment of this little matter ; there is a violent tug, and an immediate smash ;

“The waters wild
Go o’er your child,
And you are left lamenting.”

You must fish in a state of constant and careful preparedness for this sudden and impetuous rush ; for there is no use in hooking a fish if he is to break you immediately. Even your very reel must be looked to that it runs easily, that it is not fouled and clogged by use, that no treacherous sand has got in from laying down your rod and reel by the river side, for when a heavy fish goes off with racehorse speed, he will take no denial, and woe betide you if you cannot promptly oblige him with the line he wants. If he cannot get it fast enough to please him, he will break it. All this may be in a measure true of the salmon too, but it is pre-eminently so with reference to the Mahseer, and more than ordinary attention should be paid to it accordingly.

Here let me quote, in passing, from the *Asian*, in which “Marmot” writes on the 22nd of November, 1881 :—“I have fished in nearly every river and lake in Ireland, but never had a tussle equal to my last fish at Tangrot” . . . “Time, one hour and twenty-five minutes by my watch ; weight of fish, 42 lbs.”

A single turn of the line round the top of the rod does not always catch the eye at once, and is much more likely to occur while spinning than when fly-fishing. It is well therefore to test from time to time whether or not all is free. This can easily be done by taking a pull at the line close to the winch. If it runs freely through the top, well ; but if it does not, get your bait out of the water as quickly as possible, to avoid accidents. Out with it at all costs without a moment’s hesitation. Never think of risking it, for it is not a mere risk but a certainty that if you have the misfortune to get a run in that plight you will also get a smash somewhere, and not improbably of your rod. If you are too lazy to remedy the evil immediately, let me venture to suggest that it would be better that you should retire from business.

A Pliable Rod.—A pliable rod is in my opinion a matter of great moment in Mahseer fishing. The rush is so sudden and so violent that the hand, be it ever so light, cannot answer to it sufficiently quickly, and with a stiff rod the mischief is done in the very first tug. Whereas if you have a pliable rod it yields instantaneously to the tug, it yields

before you have felt the tug down at the other end of the rod in your hand, and the first thing you are aware of is the noise of the revolving check-winch. If you have a stiff rod you will require to strengthen your tackle, that is, you will be at the disadvantage of not being able to fish so fine.

It is friction that you get rid of in a pliable rod; or, to speak more correctly, you minimize uncontrollable friction, and have a greater command of the friction which you can control and utilize. The friction caused by two or three turns round a capstan or about a belaying pin amounts almost to a dead lock, and so, in a less degree, the friction caused by a single right angle is considerable. The latter is about the friction caused by the line at the point of a stiff rod. In a pliable rod the point yields quickly, reduces the angle, and so reduces the friction, till you raise the point and renew and increase the friction at your discretion.

Winch Friction.—The friction of the winch or reel is another item not to be left out of your calculations in considering the amount of tension that your line will bear. If you want to realize this, take your winch off the rod, and, holding it in your hand, satisfy yourself that it runs quite easily. Then tie the end of the line to a post or anything firm, and holding the reel in one hand run away as if you were a fish, only run as fast as a fish swims, and you will find that the friction of the reel, which seemed to be next to *nil*, will, when multiplied by the velocity, amount to such a tension that it alone will break any but a strong line. Consider, again, the wonderful velocity with which a fish swims. So quickly does a trout dart away that you can scarcely see it pass you. When you hook a fish it is frightened at the restraint, and exerts itself to flee therefrom at its utmost speed. Nothing prevents its fleeing at that speed except the resistance of your tension; and if the fish is so big that the resistance makes no sensible difference to it at first, as a man's weight does not much reduce the speed of a horse, the velocity with which the line runs out will, with a heavy Mahseer, be very great indeed, and the tension from winch friction alone will become very serious. The tension is also greatest at the moment of starting the winch in motion. When the pace is reduced you may fall back on the rod for additional friction, but till it is you will, in the case of a very heavy fish on which you can make no impression, find that you have to let the rod be pulled down to the angle of about 45° or 50° from the

water, and that nevertheless you still need very strong tackle for large Mahseer. You have to lower the top because you cannot help yourself, and it is not infrequently pulled much below that angle. Indeed, I have had a 16 feet rod jerked clean out of my right hand, and very nearly out of my left also, when a little unprepared, and for a few seconds had no strain on the fish beyond what was the result of winch friction. But quickly recovering my hold on the rod, its point was promptly raised a little, and then more and more as the violence of the rush allowed. Your aim is never to let the point be lower than the angle of 45° if you can help it, so that there is a little, but not too much rod friction just for the first few seconds, the unavoidable winch friction being, with a Mahseer, sometimes as much as the line will stand.*

Still you should also be "hard" on your fish, keeping the line as stiff as a wire from the fish to the point of the rod, so as to avoid slack line, a state of affairs which not only facilitates a hook dropping out, but also gives opportunities for a "foul" round a rock. Hold the point well up so as to keep the fish free of any snags at the bottom. You will find that in deep water a Mahseer will, like a Grayling, always bore down to the bottom. If there is a depth of 20 or 30 feet of water, down he will go to the bottom, your whole collar will disappear below water, and when at length you again catch sight of the knot that unites the collar to the running line, you may commence "chortling in your joy," for he is giving in, your strain is telling on him, as he will never come up willingly, he will never spring into the air after the manner of the Salmonidæ. The moment he comes upwards pull him towards the shore. Put in your claim for being the conqueror.

Well, all being ready for paying out line at any required pace at a moment's notice, and it not being supposed that it is to be given gratis, far from it, how is full toll to be exacted for every inch? This is usually done by raising the point of the rod more or less according to circumstances, and thus compelling the fish to bend it before he can get the line to run, and to bend it more and more as you feel you can steadily raise the point still further, till eventually you nearly "show him the butt."

Playing.—Different men kill their fish differently, some taking twice as much time about it as others. My preference is for having

* There will be more to say about winch friction when we come to winches; but enough here for our present purpose.

my fish out of the water as soon as safely may be. Brute force is of course out of the question, but short of that I am for putting on all the strain the rod and tackle is calculated to bear, and it is a matter of some little nicety to know exactly how much your rod will bear. But, above all, I am for keeping on the strain *unremittingly*, without a *moment's respite*. Do not give the fish an instant to think, or it may occur to him to take up a position in which he can sulk at the bottom, and that is dreadfully slow work. You must then try all the remedies usually prescribed for a sulking salmon, but it is a tedious business at the best, and it is losing time while you might be trying for another fish. My faith is that by sufficient *promptitude* you can prevent his ever taking to sulking at all. The very moment he ceases rushing, commence winding up, and wind away as vigorously as you dare without a second's hesitation. Do not wait for him to shape the course of events, but shape it yourself. Rely a good deal on the force of "pure cussedness" in a fish. Whatever you do his first idea is to do the exact opposite. He is afraid of your restraint, which is novel to him, and his first impulse is to break away from it. Subsequent yearnings he may possibly have, and doubtless has, when he comes to think of it, for the shelter of some deep corner where he is used to solace himself, his own fireside. But it is a novel experience to him this restraint, and it is no new work to you, and you may pre-occupy his mind, and occupy his tail, not a little, if you show prompt generalship. The master mind may come in here as well as in the fall of empires, and it is surely a pleasure to find you have that commodity somewhere about you. Of course you have it. We all knew you had it. And now it is proved! The very instant the fish hesitates wind him in. It is not impossible you may land him at once, getting him on shore before he has well made up his mind what to do. But the probabilities are that as he finds himself nearing the shore, and gets a clearer view of the great big trousered biped that is bothering him, he will summon up all his strength for another rush. All right, that is just what you want; you only want to make him keep on exerting himself unremittingly, and he must soon be yours. Is there no music in that whirl-whir-whirl of the check-reel, the rod bending bravely all the while? Surely it was of this that the sporting poet Shakspeare said some hard things with reference to

"The man who hath no music in himself
Nor is not moved with concord of sweet sounds."

Fire away, Mr. Mahseer, discourse sweet music on the long-stringed winch. The more the fish fights the better, the better for sport, the better for speedily killing him ; any respite is recovery of strength, and a good sulk makes him almost as bad to kill as a new fish.

The ground on which I lay such stress on *continuity* of pressure, more even than on the strength of the pressure, is simple enough when it is considered. Under any extraordinary exertion the muscles call on the blood, and the blood on the lungs, for speedy renewal of speedy waste, and the result is being what is called "out of breath," and the muscles, though by no means tired out, can do nothing till the breath is regained, shall we say till the blood has been re-oxygenated. Never give a moment's grace then for this re-oxygenating of the blood, and you may kill a large fish in a very short time. The average time for killing a big fish with a salmon rod is a pound a minute. A twenty pound fish should be your own in twenty minutes or thereabouts, according to the water in which you have to fight him. By continuity of pressure, unremitting strain without one moment's respite, you keep the fish out of breath, and thereby neutralize the latent muscular power, which a little breathing space would soon renew, and give you all your work to do over again. This is how it is that some people play an ordinary salmon for long hours, and think they have a most extraordinarily game fish on. It is the same principle on which "the mighty boar" is speared. Press him to his very utmost speed from the first, and keep him at it, and you will soon overhaul him ; but let him go at his own pace, a pace that will not distress him, and he will keep you at an English hunting gallop till he walks away from you, the horse giving in before the boar, that is, if he is at all a *travelled* pig.

I have a theory that if the strain on the fish is kept as much as possible at right angles to the current, it has a greater effect on him than any other strain. If the fish is down stream playing lazily about, not vigorously, perhaps meditating sulks, it is obvious that he is at a great advantage, he has the whole weight of the stream in his favour, and you distress him very little in comparison to the pull on your rod. He is practically resting and recruiting. But get the pull to bear at right angles to the force of the current and he cannot help exerting himself to keep his nose straight to the stream. If he allows himself to be pulled out of his position, and gets ever so slightly side on to the stream, in he comes towards shore immediately, is frightened at the

prospect, and dashes off again just as you would have him. Thus you keep him at it, and very soon tire him out. But in practice your pull at right angles to the stream generally compels the fish to keep working up stream, and that betters your position, enabling you to apply a strain that is a compound of a perpendicular, a down-stream and a shoreward pull. In deep water, however, you may be equally satisfied you are wasting no power by pulling the fish upwards, for the specific gravity of a fish being *very* little greater than that of water, he gains next to nothing by his weight while *in* the water, and he must keep on exerting himself to swim downwards, with his head down and tail up, to resist your upward strain, and as in that direction he can never swim beyond the bottom, you are ensured against any violent rush. A friend wrote to me of a fish boring at first, and then making a free fight with a good deal of spluttering on the surface. I do not look upon this spluttering on the surface as fighting, but as an indication that the fight was over, the fish was beaten, and had no longer the power to bore down to the bottom. As soon as ever a fish begins to splutter, the pulling upwards should cease, the point of the rod should be lowered and pulled sideways, not upwards, so as to bring the fish to shore without having its head out of water. Spluttering is dangerous and to be discouraged, for direct communication through the air means the absence of the yielding cushion which the water supplies in easing off each jerk on the line; it means, also, that the fish gains the advantage of his specific gravity being greater in the air than in the water. It is an ugly time when a jack shakes his jaws in the air, and never is a trout so likely to get off as when springing into the air. With fish that have not such vices naturally, it is a great mistake to help them to being troublesome. No Mahseer, indeed none of the Indian carp, are up to those little tricks, so never bring them to the actual surface, but play them short of that till you land them.

Briefly, then, my idea is to be heavy on your fish, and be unremitting, be prompt, scan your battle-field, and choose your ground, and shape the course of events as much as you can yourself; in a stream pull generally at right angles to it, in deep water pull upwards, get your fish on *terra firma* as soon as possible, it is the safest place for him.

An extra reason for having the line as taut and straight from the fish to the top of your rod as possible is that you may lessen the chances

of the fish fouling it round a rock and cutting you. So try and keep well over him till he is beaten.

Also keep a little below him if you can, so that he shall have to fight the force of the stream as well as fight your pull. This every salmon fisher does at once. And the stronger the stream the stronger the reason for your being below your fish. I know that some also add the argument that a fish pulled down stream is quickly drowned, because in that position he cannot so easily eject through his gills the water which he has inhaled. But my humble opinion is that he will struggle to the last against being pulled downwards, and that when he submits to it he is already a beaten fish, and you need waste no more time on him, but get him ashore.

I have said keep below your fish if you can, still I do not believe in running down the bank. I think it is resorted to much too readily, the result being that the command over the line is more than half lost the while, and not nearly enough steady pressure is maintained. If it must be resorted to, follow the fish only at such a pace as leaves you still full master of the rod and the pressure, and do not move any faster till close on the last extremity. To endeavour to race your fish on a practically loose line is equivalent to racing an express train.

When the fish is tired you feel each struggle as you feel the stride in a tired-out horse. Every beat of the tail is telegraphed up the line. Before the fish was tired you seemed to have on a lively tree, an active oak, on which you could make no manner of impression. When the throbbing comes he is a beaten fish, and will soon be your own.

By the time which passes before this throbbing comes you may in some measure estimate the size of the yet unseen fish. In the first few moments of the mighty rush you cannot tell a ten-pound fish from a fifty-pounder, and even a five-pound fish will sometimes beguile you for a short space into the fond hope, not unmixed with a spice of fear, that you have got hold of the biggest Mahseer in the river, especially if he bolts down stream, and it is down stream that they generally make their first rush. Some say they *always* bolt down stream first, but that is not my experience, and I am inclined to think that those who say it quote unconsciously from the memory of supreme moments deeply impressed, while less exciting runs, not accompanied by the trying catastrophe of a break, have not unnaturally faded from the memory. It is a trick that memory plays us. And I can certainly recall many a

Mahseer that has not rushed down stream first. But, to return to our subject, wherever your fish goes on his first mad career, when the throbbing comes you may commence estimating how big he is.

This may perhaps be best illustrated by a quotation from a letter of my own written close on experiences:—

“R. got an 8-lb. Mahseer. G. and P. came up just in the nick of time to see it struck. R. had the salmon rod held in both hands with the butt almost straight to the fish, and bending down to the hand. None but a good rod and good tackle could have stood it and yet the line was screaming out down stream for about fifty yards, just as if there was a 50-lb. fish on, till the fish took up a position in the deep water, and R. wound up and got close to him to find to his disappointment that the fight was practically over in that one grand struggle. A little dull resistance, a few turns, and the fish was shelved. It is surprising what a game fish a Mahseer is! The first blow and rush of a 5-lb. or 10-lb. fish is so violent and furious that no sign is given by which you may know it from a fish ten times its size; hence it is that many men think it must have been a very monster that broke them, whereas it may equally have been a 5-lb. or 6-lb. fish. It is only in the duration of the run, the continuance of the strength, that the size of the Mahseer can be approximately guessed at.”

I may mention here, as a case in point, with reference to the manner of playing a fish, that a friend killed a forty-six pound Mahseer after a four hours' fight, and that the very next day, in the very same run, I killed a Mahseer of the same weight to an ounce, and in splendid condition, in forty-five minutes by my watch. And my rod and line were not stronger than my friend's; my line was exactly similar, and my rod was, if anything, lighter. It was not my fish, then, or my water, or my tackle that were different, only my tactics. Nor had I any advantage in the way my fish was hooked. It was simply the tactics—the tactics to which I am seeking your adhesion.

Should you chance to hook your fish in the under lip—an unusual occurrence—the upward pull of the line may tend to make it difficult for the fish to open its mouth wide so as to inhale freely the oxygen in the water, with the result that the fish would be the sooner exhausted. But there was no such accident in the above case in point.

Please note that I kept the regulation time, forty-six pounds in forty-five minutes, a pound a minute. I *insist* on punctuality.

A brake-winch will very much assist your insistence, and enable you

THE ROD IN INDIA. C

to put on any pressure your tackle will bear, however light your rod, as may be seen in the Chapter on Tackle. As long as you do not bend the rod too much the pressure will not strain the rod, however light the rod or strong the tackle. See remarks under Winches and Brake-winch in Chapter XX.

Landing a Mahseer.—And now to land him. There are four ways—shelving, handling, gaffing, netting.

Shelving.—To my thinking shelving is the safest way, and directly you see that your fish is getting beaten, look about you for a gently-shelving strand to which to lead him, and continue the fight in that direction, remembering that the fish is sure not to like the look of the bank as much as you do, and directly he nears it is certain to summon all his remaining strength to dash away from it. So do not pull him on shore while he is struggling against you, but choose rather the moment of utter exhaustion *directly after* one of these last great efforts, then pull him straight towards shore, with his nose well up on the surface of the water, and you will find the fish will, with the way you get on him, be run his whole length well up the shelving bank with his tail clear of the water, and for a second or two he will lie there like a log. You will have plenty of time to stoop down and secure him yourself, without the doubtful aid of an untrained attendant. And even if you are fishing from a boat it is the safest plan to go ashore and shelve your fish if he is a heavy one worth killing. Of course you will take the precaution, when going ashore, to send your boat enough out of the way to get sufficient elbow-room.

Handling.—But handling is an equally safe way if you have with you a really well-trained man, who knows his work and will not lose his head. I have had such, splendid fellows, who joined heart and soul in the sport. They can be so useful that it is well worth while to train a likely man. His business is to approach the fish from behind it, and out of the way of your line, and waiting the moment of exhaustion, or waiting your word, to use the moment promptly yet not hurriedly, slipping both hands under the fish, with a thumb in each gill, and then gripping tight; or, if it is a small fish, he can take it by the nape of the neck with one hand, with the thumb in one gill and the fingers in the other. In either case he will have secured a firm grip, from which no slipperiness will help the fish to free itself. And so held the fish should be dragged or carried well inland. You cannot take the fish by the

tail as you can a salmon, as that member is not so conveniently shaped for the purpose in a Mahseer.

The Gaff.—In Mahseer fishing the gaff is not without a disadvantage, a disadvantage which is not present in salmon fishing. The



scales of a Mahseer are so extraordinarily large and hard that if the point of the gaff-hook happens to enter the hard exposed part of a scale, it will not penetrate more than half an inch or so, and the scale comes away and not the fish. And if you do not observe it and free the point of the gaff-hook of the transfixed scale you may try in vain to get the hook to enter anywhere. But this does not happen often if you gaff the Mahseer in the belly, where the scales are softer, getting the gaff under the fish from the side near you, and striking upwards. I know some salmon fishers prefer to drop the gaff over the far side of the fish and strike shorewards; but by so gaffing you are more likely to strike against the hard scales of the side than against the softer scales of the belly, which, with the Mahseer, is the danger to be avoided; and as your gaffing would ordinarily be done for you by a native attendant, many think the danger too great, and never

allow a gaff to be used on a Mahseer; and I am free to confess that neither would I ever use it myself on this particular fish if I could



possibly shelve or handle instead. But there have been occasions on which I have been glad of its aid, because the position allowed of none other. I have been in pools so steep-sided and overgrown with forest that there was no possible landing-place for more than half a mile. Then a gaff was invaluable. I have also been with another who had got hold of a 19½-pound Mahseer in such heavy water that it was most difficult to keep the boat in it, except in the one position of vantage that had been secured, so that the fisherman dared not change his position lest he should be swept away, and the line cut round one of the many rocks. The current too was so

strong that if the fish had gone down he could never have been recovered. It was altogether a cramped position in rough water. From

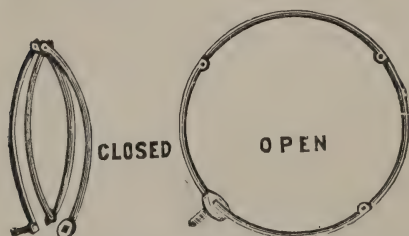
another basket-boat a gaff enabled me to take the fish by surprise in deep water, and he was lifted into my coracle. In such a position it is well to know the proper way to use a gaff on a Mahseer. And in any



case a gaff is the thing for freshwater sharks, so I give illustrations of the collapsing or telescopic gaff-hook, and handle, which is of course the more expensive; the gaff-hook that screws into a socket fixed at the end of a handle; and the gaff-hook that can be lashed on to any bamboo.

Netting.—With a really big Mahseer a landing-net is out of the question, as no landing-net ever made would hold him. Still I have found a big salmon-net very useful when fishing from a boat, as it saved the too precious time which would have been lost in getting ashore, and saved also lamentably disturbing the beautiful water which would have had to

be crossed to the only available landing-place; and amongst forests and high banks and rocks that landing-place was not to be seen, and was perhaps half a mile off. My landing-net was of the steel-ring, jointed, collapsible sort, 1 foot 3 inches across the mouth when open, and 2 feet 6 inches deep in the net, and the net made very full so as to allow of a fish of over two feet long lying across at full length



directly it is in the net. And so lying it is difficult for him to get out again. In place of a stone to sink the net I bored a hole through a bullet and tied it permanently to the bottom of the net. This net

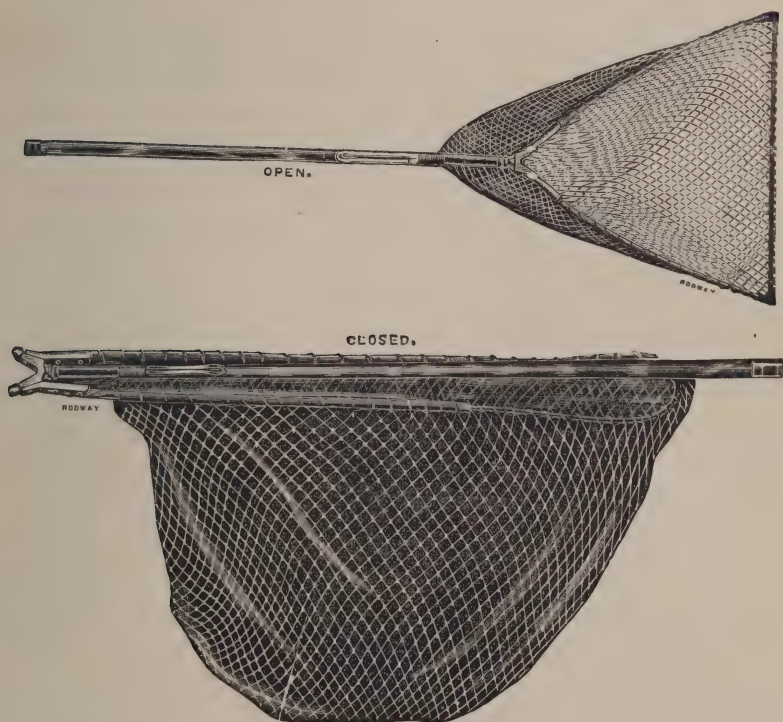
screwed into a socket fitted on to a stout male bamboo, which socket equally fitted the gaff-hook, so that net and gaff were readily interchangeable, according to the requirements of the fish.

There is also the triangular landing-net affected by some because of its lightness. It is a pattern that admits of easy enlargement to any size desired, by simply extending the arms with bamboos.

Here let me quote from "Tank Angling" in connection with Labeo :

"As the fish are heavy, not only must the handle be strong, but it must

be held in the right fashion. Your native attendant will always put the net under the fish and then lift the net at right angles to himself, so that the whole weight of the fish is at right angles to the handle. Not the strongest landing-net going can stand that long, the majority will be ruined in a single day's fishing, the weight of the fish bending the iron of the landing-net close up to where it is screwed into the handle. Directly the



fish is in the net the handle should be brought into a perpendicular position, and the fish lifted out with the handle all the time perfectly perpendicular. There is then no strain on the iron. There is also no danger of the fish getting out of the net because, if the bag of it is long enough, the fish will fall into the bottom of the net well below the mouth of it, and is really more safely netted than if the net were held out at right angles."

I have been asked how to put a landing-net under a fish, whether so as to take him head foremost or tail foremost. Presuming that he is a

big fish that you cannot take in bodily, and must select which *end* of him to commence with, I would select the tail, because of the danger of the hooks being caught in the net, when, with one plunge, the fish can easily break his hook-hold or the gut. That plunge is not unusually made on the fish's first feeling the net touch him, and if, by the hook being hitched in the net, he gets a firm purchase, a break is inevitable. This is doubly important if you are using spinning tackle with many hooks, only one of which perhaps has hold of the fish. But I once had to land a fish for a friend who, in some inexplicable way, had an eighteen-pound mirga (*Cirrhitina mirgala*) hooked by the tail. In that case, of course, I took the fish into the landing-net head foremost. Also in a stream, bring the net up from below stream, so as to allow of the fish falling back with the stream into the net.

If you are in a boat you should kill your fish very thoroughly before you attempt to get him into the boat, or he may run under your boat, and get an awkward purchase on your line, such as will enable him to break it in one of his last plunges. Keep him well off the boat, and work him about till you can bring him up just where you like, thoroughly exhausted and passive, while your man nets him. But if you can discover a shelving sandbank anywhere near you, and your fish is worth killing, I think it is much better to go ashore and run no risks, for the safest plan is to shelve a fish whenever you can.

Directly you have your Mahseer safe knock him on the head. You cannot kill a Mahseer of any size as you can a Labeo (page 53 of "Tank Angling") by hitting him on the side and bursting his air bladder. If you don't kill your Mahseer promptly you may find that, in a boat especially, and armed as he is with hooks, he may contrive to make himself very unpleasant, and perhaps hook you or tear your net, or bang himself about till he breaks your tackle against the boat. So knock him on the head, and don't attempt to take the hooks out till you have, or he may give a sudden jump that may drive the hooks into you. A friend of mine did not find it at all enjoyable sport cutting the hooks out of his own hand.

There are some people who seem to think the end and object of catching a fish is to eat it, and a rapturous description of glorious sport is too often cut short by a pragmatic inquiry as to what the fish tastes like. To my mind that is a very secondary matter. It is, moreover, a matter on which it is well known that people are not calculated to agree,

so much so that "*de gustibus non est disputandum*" is an axiom. Is it fair, then, that I should be called upon to say whether or not the Mahseer is good eating? All I can say is that I have tasted Mahseer in such high condition that they were excellent, they were so rich that one could not eat any melted butter or other sauce with them, and so well flavoured that they seemed to me to stand between the salmon and the trout for the table. Such a fish must be one that has not even commenced partially spawning, much less one that has completed that operation. The best size for flavour is, in my opinion, about 6 lbs. or 7 lbs., say from 2 to 10 lbs. When less than 2 lbs. they are too bony, when much larger than 10 lbs. they are apt to be too gross and oily for European tastes; but they are always thought thoroughly edible by your camp. Natives, whom I have supplied with more than they could eat fresh, said it salted well, but I never tried, and tastes differ, though rich fish do as a rule salt well. But see remarks in the next chapter on spent fish.

You will want one attendant with you to land your fish and carry them, as well as to carry and prepare bait, as we shall see hereafter, and to relieve you of your heavy salmon rod between whiles when clambering over rocks from one good place to another; in short, to take off your hands all the drudgery of fishing, and to leave you only the sport. Pick out one or more likely fellows therefore, and train them.

But I have been rather putting the cart before the horse, indulging in the sport given by a Mahseer before saying how to hook him, seemingly forgetting the wise saw "First catch your hare." Perhaps it was by way of offering some inducement to anglers to accompany me out fishing in the next chapter but one, for they can skip the intermediate short chapter or not, according as they care or do not care to know anything about the natural history of the Mahseer.

CHAPTER III.

THE NATURAL HISTORY OF THE MAHSEER.

“I in these flowery meads would be ;
These crystal streams should solace me ;
To whose harmonious bubbling noise
I with my angle would rejoice.”

ISAAC WALTON.

“ἀνέλκυσα χρύσειον ἰχθύν,
παντᾷ τοι χρυσῷ πεπυκασμένον.”—THEOC. ID. XXI.

“I landed him, a fish compact with gold.”

CHAPMAN'S Translation.

It may be interesting to some that a few words should here be introduced on the natural history of the Mahseer. The Mahseer is a carp, though, as we shall see hereafter, very different in size, flavour, strength, activity, and so forth, from his ignoble namesake in England, or rather from the fish we have been accustomed from our boyhood to call *the* carp, as if there was not a very large family of them. So if you like it better, you can call him a barbel. His genealogy may be given as follows :—

Animalia.

Vertebrata.

Class. Pisces.

Sub-class. Teleostii.

Order. Physostomi.

Family. Cyprinidæ.

Sub-family. Cyprininæ.

Genus. Barbus.

Sub-genus. Barbodes.

Species. Barbus (Barbodes) tor.
or Species. Barbus tor.

Teleostii. Greek, *teleos*, perfect ; *osteon*, bone.

Physostomi. Greek, *physa*, a bladder ; *stoma*, a mouth ; the swimming bladder communicates with the digestive canal by a duct.

Cyprinidæ. Latin, *cyprinus*, a carp.

Barbus. Latin, *barba*, a beard.

In 1873, the days of my first edition, our mutual friend the Mahseer had more names than one given him by Cuvier and Valenciennes, by Dr. Hamilton Buchanan, and continued by Dr. Day in his monograph of Indian Cyprinidæ. But in Dr. Day's later and great work, "The Fishes of India," published in 1878, the two names *Barbus mosal* and *Barbus tor* are clubbed under one, to wit, *Barbus tor*. I therefore follow the nomenclature of the latest authority on the subject, and subjoin the following complete quotation of Dr. Day's remarks under the species *Barbus tor*, together with his footnote, quoting my book, because it serves to show the dubious that we are talking of the same fish.

15. *Barbus tor*, Plate cxxxvi., fig. 5 ; and cxi., fig. 1.*

Cyprinus, tor, mosal and putitora? Ham. Buch. Fish. Gang., pp. 303, 306, 388 ; Gray and Hard. Ind. Zool. ; McClelland, Ind. Cyp., pp. 271, 303, 337, 388, pl. xli., f. 3 ; Cuv. and Val. xvi., p. 197 ; Jerdon, M. J. L. and Sc. 1849, p. 311.

Labeobarbus macrolepis, Heckel, Fische aus Kashmir, p. 60, t.x. f. 2 ; Bleeker, Beng., p. 60.

Barbus progenius and *megalepis*, McClelland, Ind. Cyp., pp. 270, 271, 334, 337 ; Jerdon, M. J. L. and Sc. 1849, p. 311.

Barbus macrocephalus, McClell. Ind. Cyp., pp. 270, 335, pl. 55, fig. 2 ; Cuv. and Val. xvi., p. 201 ; Bleeker, Beng., p. 60 ; Günther, Cat. vii., p. 131 ; Day, Proc. Z. S., 1869, p. 556.

Barbus mosal, Cuv. and Val. xvi., p. 200 ; Bleeker, Beng., p. 60 ; Day, Proc. Z. S. 1870, p. 372.

Barbus mussulah, Sykes, Trans. Zool. Soc. ii., p. 356 ; Bleeker, Beng., p. 60 ; Jerdon, M. J. L. and Sc. 1849, p. 313.

Barbus Hamiltonii, Jerdon, M. J. L. and Sc. 1849, pp. 311, 312.

Labeobarbus tor and *progenius*, Bleeker, Beng., p. 60, and Cobit, and Cyprin., Ceylon, 1864, p. 10, t. 2.

Barbus macrolepis, Günther, Catal. vii., p. 131.

* "For an account of the natural history of the Mahseer, and the sport it affords, see 'The Rod in India,' by H. S. Thomas ; Mangalore, 1873."

Burapatra,* Assam: *Poo-meen-candee*,† Tam.: *Naharm*, Hind.: *Kukkhiah*, Punj.: *Foon-gah*, *Petiah* and *Kurreah*, Sind.

‡ B. iii., D. 12 ($\frac{3}{9}$), P. 19, V. 9, A. 7-8 ($\frac{2-3}{5}$), L. l. 25-27, L. tr. 4/4.

Length of head 4 to 5, of caudal $4\frac{3}{4}$ to 5, height of body $4\frac{1}{3}$ to $5\frac{1}{2}$ in the total length. *Eyes*—diameter $6\frac{1}{4}$ to $7\frac{1}{2}$ in the length of the head in moderately sized specimens, but much larger in the young (at 3.5 inches in length, being $3\frac{1}{2}$ in the length of the head; at 5 inches $4\frac{1}{2}$), 2 to $2\frac{1}{4}$ diameters from the end of the snout, and 2 apart. Interorbital space flat. Opercle $\frac{1}{4}$ higher than wide; the maxilla reaches to below the front edge of the eye; snout pointed; jaws of about the same length; lips thick, with an uninterrupted fold across the lower jaw, and both the upper and lower lips in some specimens produced in the mesial line. Dorsal profile more convex than the abdominal in some examples, not so in others. *Barbels*—the maxillary pair longer than the rostral ones, and extend to below the last third of the eye. *Fins*—the dorsal arises opposite the ventral, and is $\frac{3}{4}$ as high as the body, its last undivided ray is smooth, osseous, strong, and of varying length and thickness. Himalayan, Bengal, and Central Indian specimens generally have the spine strong, and from $\frac{1}{2}$ to $\frac{2}{3}$ rd the length of the head, it rarely exceeding this extent. In Canara, Malabar, and Southern India, where the lips are largely developed (see Pl. cxl.), the spine is very much stronger and as long as the head excluding

* “Hatti Shikaree,” i.e., Mr. J. E. Welborne, a resident in Assam, gives the Assamese as *Junga Peetia*, and Dr. Day himself does the same further down in this quotation.

† The Tamil word should be spelt *Bõm-mìn*, as explained a few pages further on in this chapter. *Poo-min* would mean flower-fish in Tamil, and be incorrect for the Mahseer. *Candee*, correctly spelt *Kendai*, is the Tamil word for carp, and includes with the Tamulians many more sorts of fish than all the Cyprinidæ, so that Dr. Day’s *Poo-meen-candee* may more correctly be read *Bõm-mìn* without the *Kendai*. It is very difficult indeed to get correct vernacular names. The only way is to get them written down for you in the vernacular character by some native who really knows how to spell them in his own language, and then to transliterate them yourself on a correct system, as given in my book “Tank Angling in India,” where you will find it by referring to the word “transliteration” in the index, together with some remarks on the difficulties connected with correct vernacular naming. The Canara Canarese name is *Peruval* or *Harale-mìnu*; the Mysore Canarese, *Hällämìnu*; the Malayalim, *Meruval*; the Tulu, *Heragõlu* or *Peruval*; the Hindustani, *Maha-sir*.

‡ B iii. = Branchiostegals iii.

D = Dorsal fin.

P = Pectoral fin.

V = Ventral fin.

A = Anal fin.

C = Caudal fin.

L.l. = Lateral line.

L.tr. = Lateral transverse.

the snout. Pectoral as long as the head excluding the snout, it reaches the ventral which is little shorter. Anal laid flat does not reach the base of the caudal which is deeply forked. *Lateral line*—complete, 2 to $2\frac{1}{2}$ rows of scales between it and the base of the ventral fin : 9 rows before the dorsal. Free portion of the tail longer than high. *Colours*—silvery or greenish along the upper half of the body, becoming silvery shot with gold on the sides and beneath. Lower fins reddish yellow.

This fish is the celebrated "Maha seer" of sportsmen in India. The various large barbels in Assam are termed *Petiah*, with a specific name prefixed to denote the species alluded to.

Barbus macrocephalus, McClelland, from along the Eastern Himalayas and Upper Assam, has not the length of the head, " $\frac{2}{5}$ ths only of the total (without the caudal)"—(Günther); but *without the head or caudal*, or $\frac{2}{7}$ ths of the total excluding the caudal fin. It has rather a longer head ($4\frac{1}{2}$ in the total) than is usual, its eye is nearer the front end of the head, whilst the upper bone of the suborbital ring is very wide.

Barbus tor, H. B., or *progenius*, McClell., shows great variation in the length of the head, which seems to augment in proportion with the size of the fish; the body is often much higher, whilst the lips are very much more developed than in the last variety.

Habitat.—Generally throughout India, but in the largest size, and greatest abundance in mountain streams, or those which are rocky.

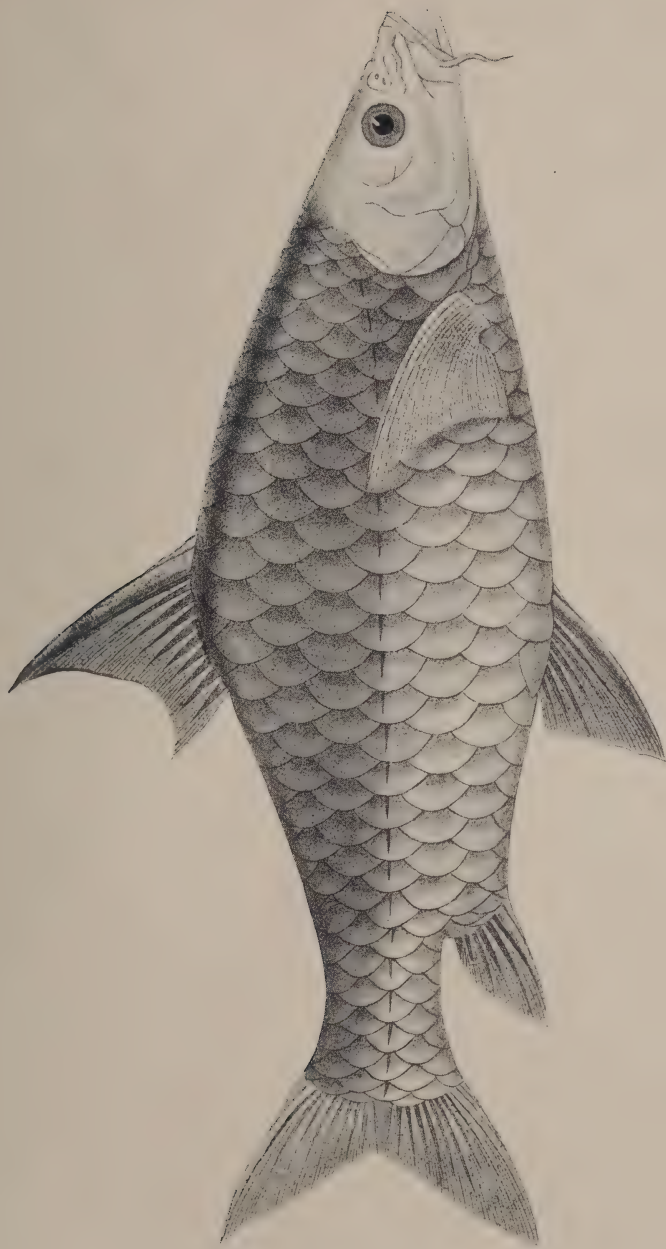
I think I need hardly apologize for burdening my page with so much scientific detail, for many an angler is conversant with and interested in it. One such was learning the first rudiments from me, over a freshly-landed new fish, when up came a friend of his with a cheery: "Well, what sport?" Thereon my angler, who five minutes before had not known one of these long words, drew himself up with assumed dignity, and, always ready with his fun, sententiously replied suppressively: "We were not fishing—er—but—er—studying—er—mandibular cirrhi, opercles, pre-opercles, branchiostegals, osseous entire rays and so forth. I am sorry to be talking a little *above* you, you know!" When he reads this I fully expect he will say, as another friend did, "Yes, I bought your book, and I found the best joke in it was my own!"

Further experience has confirmed me in the view advanced in 1873, that there are more Mahseers than have been named, and that if it were possible that as much accurate attention could be given to the Mahseer as has been devoted to the Salmonidæ of Great Britain, of Europe, and of America, it would be found that the Mahseers of India would likewise grow in numbers. No one who has not tried it can form any idea

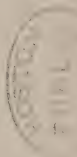
of the amount of labour required to collect specimens sufficient to clear up a moot point, to decide which differences are only accidents of local colouring, which the ordinary result of the change of season, which indicate only varieties, and which serve to constitute separate species. To satisfy an accurate mind specimens must be collected from many rivers, in many localities, at various ages, in various seasons, and in goodly numbers; and all details of capture must be reliably noted at the time; all these facts which form the basis of conclusions should also be retained for the satisfaction of other enquirers. I did enough of this to know what a labour it is, enough to know that it would be impossible for me to find sufficient leisure in the intervals of business to exhaust the matter to my own satisfaction; not enough to lay down exactly how many different Mahseers there are, but still enough to make an advance in that direction by venturing the assertion that there are at least three distinct forms with difference of external structure, and many more with differences in colouring. Conceiving that these differences may be not uninteresting to some of my readers I will present them with three plates of Mahseer, illustrative of my contention that there are at least three distinct forms, and as to the differences in colouring I will ask my readers to be content with my describing them in the letterpress, in lieu of colouring the plates, as in my previous edition, in order that they may thereby get the benefit of a cheaper book within the means of many a poor brother of the angle to whom the price of my last edition was deterrent.

Plate I. represents the Mahseer of the Bawanny, an affluent of the Cavery, which discharges on the East coast of the Madras Presidency. Plate II. is taken from the Mahseer of the rivers of the West coast of the same Presidency, and represents generally the shape of the Mahseer of Northern India. Plate III., copied from Dr. Day's splendid work "*The Fishes of India*," illustrates the variety described by him in the quotation made above as having the lips largely developed.

I put the Bawanny Mahseer first because, to my thinking, he is the finest of them all. He is much deeper, it will be observed, and more high backed than the other Mahseers. When he attains size and corpulence these peculiarities are emphasized, and though, like an alderman, he lays it on pretty evenly all over from the very chin downwards, still the obesity is especially remarkable in the droop at the anal fin. In this respect he is following the fashion of respectability,



BARBUS TOR.



a fashion not neglected even in the agile tiger, but the abdomen is not pendulous as in the corpulent cat or the cow-fed tiger, but firm and solid. Please do not think that the representation in the plate is a mistake of the artist and overdrawn.

To insure accuracy of drawing, every detail of form has in all cases been taken life size by compass, and then the reduction from that drawing has not been made by eye, but in numerous comparative squares, so that we are insured against even a single scale being too high or too low, as well as against any part being disproportioned. And the reductions from the second edition to this have been made by photography.

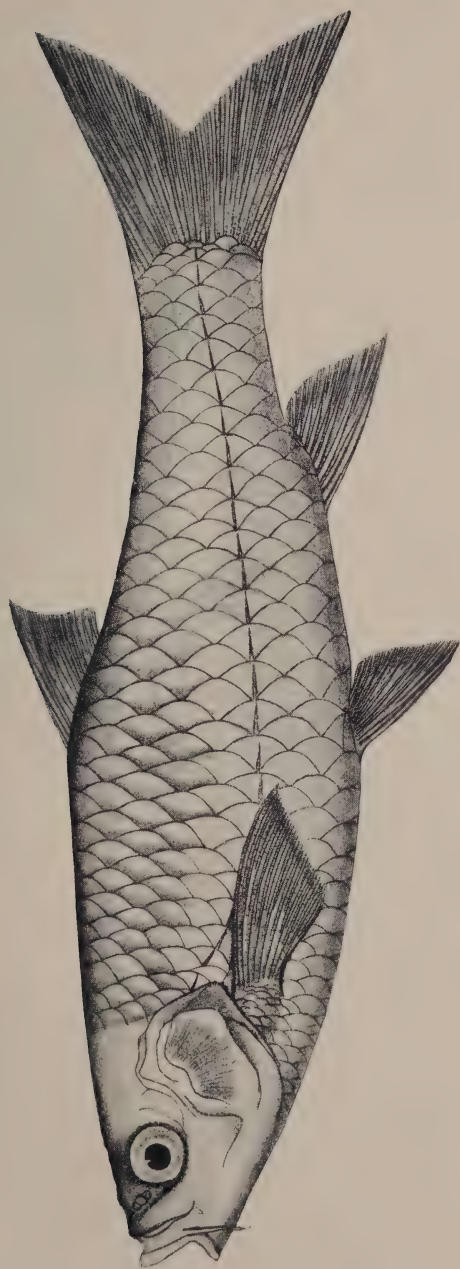
When fry they are long and thin and round, not deep, and larger headed in proportion than when mature, bearing about as much resemblance in figure to the form of their parents, as a stripling does to his broad-shouldered, well-filled-out ancestor. Still, there is no mistaking them, and they can be picked out at a glance by their large scales and general appearance, without any necessity for closer identification by counting fin rays, etc. As they grow they soon show a tendency to be deeper and higher backed than other Mahseers.

In colouring also it is a most handsome fish. It would be difficult for any artist to do justice to the rich golden hue which shines on the gill covers, and is the predominant colour of every scale. It is from this colour that the natives of that locality call it *Bom-min* (the *o* like the *o* in kingdom, the *i* long like *mien* or *mean*), which is the Tamil for gold fish, from *pon* gold and *min* fish. The colour is not at all that of the little Chinese gold fish, to which we are accustomed in glass vases, but something between the colour of a bright new sovereign and that of bright shining copper fresh from the mint, the burnished copper the colour of the outside of each scale, and the tinge of brighter gold flashing through the centre of each scale, and coming out almost all over the gill covers, and showing itself freely in parts of each fin.

How could any artist do justice to such colouring without the actuals before him. And even with the living fish before him it calls for a good artist to seize truth and represent it, for truth in fish colouring is evanescent. My learned readers will readily recall to mind how noble Romans had at their sumptuous feasts live mullet laid upon the table that they might watch the beautifully changing hues of the expiring fish. Have my readers watched a high conditioned Mahseer in like

manner? Let them; and they will see that the colours change every second after the fish is out of the water. The eye travels from individual scales to gill covers, to the head, the fins and tail, and before it returns to the original spot, a change has come over that spot, and it is perceptible. The next survey is made more rapidly, but still there is a noticeable change. Thus to notice the changes is easy; but to catch each fleeting shade of colour before it is gone is very far from easy. This is what I have essayed to do in my second edition. I did not care to present my readers with the corpse-like colouring of dead and dying fish. I wanted the resplendent hues of healthy living fish as Nature paints them when rejoicing in their element. How did I essay it? I took an artist with me to the water's edge. He had ready rough drawings of fish in any number, and his colours, brushes, etc., were handy. The moment I landed a fish he hit the colours, and roughly and rapidly filled them in. I did the same by his side. We compared notes. We were conscious that change had been going on as we coloured, and that it was hard to say wherein the earliest and wherein the later colours had been correctly seized. So another fish was caught, and the colours of the painting compared with it the instant it was on shore. Necessary corrections having been made, another was captured, and yet another, and these all had to be captured at a season of the year in which the fish were in high condition, with a healthy colour. The result was that I had colouring which some told me must surely be too bright, whereas I affirm that the failure was rather in the opposite direction. I could not get sufficient resplendency. I could not add to each colour the look of burnished metal. I could not give the changing reflections of each angle of light on the glistening coloured scales, the varying hues of semi-transparent fins showing differently with a dark or a light background. Enough that I did my little best to help my readers to recognize our mutual friends of whom we chat together.

Keen fishermen will understand that it is no easy matter to lay down the rod and take up the brush when the fish are on the run. There were times when it could not be done at any price, no not for an annual gold mine. There were times, too, when appliances were wanting. Friends have engaged to colour fish for me in places inaccessible to myself, and finding the same difficulties have abandoned the attempt. Others have most kindly supplied paintings which unfortunately could not be accepted for want of accuracy.



BREUS TOR.



Having been at such pains to get at the right colouring of my fish you will guess, kindly reader, that it is not without a pang that I send out the plates in this edition uncoloured. But I have been told by so many that my last edition was too expensive, that I have determined to make every effort to cheapen this, and as the price of a book depends on the cost of its production, I must forego such costly luxuries as hand coloured plates.

May I be allowed to sneak in here the exculpation that it was not for filthy lucre's sake that my last edition was priced as highly as it was, but in accordance with ordinary publishing rules, and that so sorry was I to find that it was beyond the reach of some good brothers of the angle that I tried to redeem the mistake by keeping an extra copy by me always ready to lend to any one that asked me. So I hope I stand excused.

I have roughly called this fish the Bawanny Mahseer, but it is not the only Mahseer in that river, as I have caught there the Mahseer of Plate III. with its strange development of the lips, and other Mahseer of form like Plate I., but of very different colour. I see from my notes made on the spot, that in December I have caught them with grey back, silver stomach, and bright orange fins and tail, and having none of the rich golden hue of the Mahseer of Plate I. These colours are so markedly different from those of the rich golden hued fish that the difference cannot be referred to the changes wrought by season in the same fish. Besides it was in the same season of the year, to wit in December, in the brief Christmas holidays of the public servant, that several individuals of both types of colouring were caught. Nor can the difference of colour be attributed to change of colour in water, as in the case of bog pit, lake or river trout differing in shade to accommodate their colours to their surroundings, for they were caught in the same part of the same river as well as in the same season. In September in another part of the same river, some twenty miles further up, three of us caught the same orange finned variety above described, and the large lipped ones of Plate III., as well as one with pinkish fins, all Mahseers, but strange to say none of the golden hued Mahseer on that trip of four days. This last absence of the golden hued Mahseer I cannot account for; but this much seems deducible from the above facts, that there are at least three if not four Mahseers in this one river the Bawanny.

A pretty painting of a 5-lb. Mahseer caught in the Arienkavu Pass,

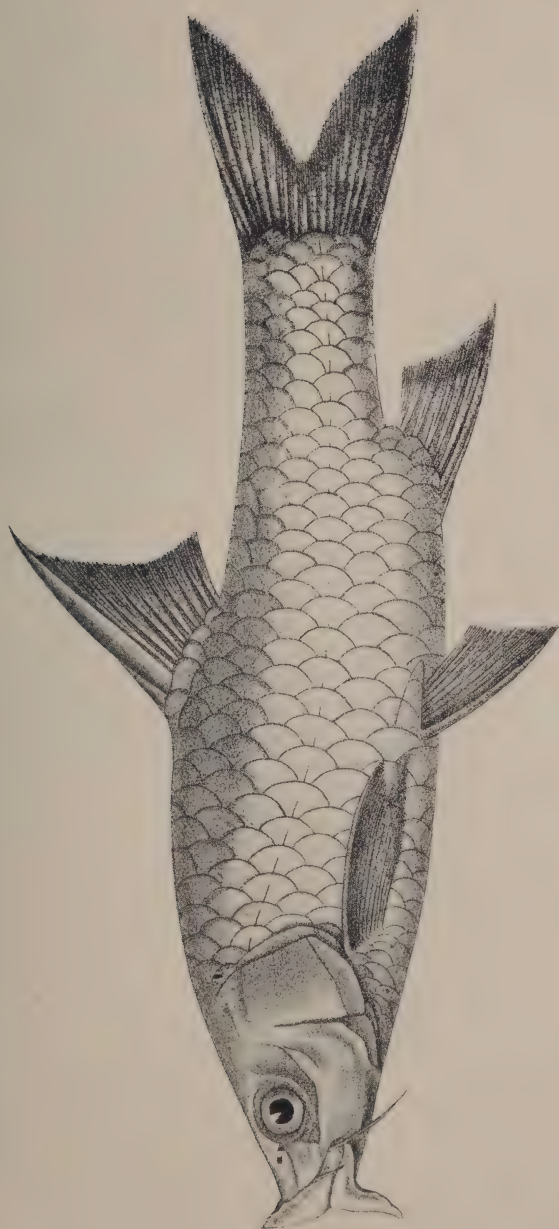
near Courtallum in the Tinnevely District of the Madras Presidency, was kindly sent me by a friend. In that the fish is represented as having a deep chocolate coloured back and fins, the colour blending into golden brown on the sides and gills, and fading into white on the stomach. The iris of the eye is a bright vermilion, instead of the ordinary light yellow, the pupil black as usual. So here seems to be a fourth Mahseer of distinct colouring, and in my second edition I gave coloured plates of a Mahseer that was light brown with silver stomach, and caudal and anal fins blue, which was caught at a place called Subramani, in the South Canara District of the Madras Presidency, and of another caught at Siradi in the same district, that was dark grey all over with each scale shot with gold, and the gold covering the gill covers and lips and iris of the eye. The grey was darkest on the back fading into white on the abdomen. The dorsal, caudal and anal fins were bright light blue, while the pectoral and ventral fins were pink.

I also gave a plate of a Mahseer taken at the Gairsoppa Falls in North Canara in the Bombay Presidency, which was light blue all over except on the abdomen which was white, and the iris which was yellow.

These last four Mahseers were all of the form shown in Plate II. which is the form of fish that I have caught in Northern India, and answers to Dr. Day's typical plate and description of *Barbus tor*.

And yet again a friend writes me that the Assam Mahseer are "a beautifully coppery bronze colour with vermilion fins." And again another tells me that the Burmah Mahseer also vary, and a correspondent of the *Asian*, L. J., writes of a Mahseer of 7 lbs. with "back and fins perfectly black, a game little head, and very thick through," on which a friend comments, "black Mahseers are not uncommon."

Plate III., is a copy, by kind permission, of Figure I. Plate CXL., in Dr. Day's "Fishes of India." It shows a large development of adipose continuations of the upper and lower lips. The flaps are exhibited erect in the drawing, which shows well how they can stand free; but they ordinarily lie close against the fish. I have found this peculiar formation occurring in all the places spoken of above, except in Northern India, where I have not fished enough. It cannot indicate a mere variety, for I have found it so frequently. Does it indicate a species, or is it a temporary growth like the beak of a male salmon in the spawning season? It cannot be the latter, because I do not



BARDUS TOR.



remember to have ever seen it half developed, and I have notes of having frequently observed it fully developed in small immature Mahseer of 1 lb. in weight and under, down to fry of five, five and a-half, and six inches in length, when they could hardly be breeding. Native fishermen always say that these Mahseer with the large developed lip are the females, and even their small boys say it unhesitatingly, showing that it is a well accepted dictum among them. Any such universally accepted opinion of professionals I am in the habit of picking up as a thing to be very thoroughly sifted before it is discarded, for though the native fishermen are untutored, they are professionals in their trade, and much may be learnt from them within certain guarded limits, for they possess the accumulated observation of generations of men of their own caste, handed down from experienced sage to learning youth, learning a trade that they have to live by. And even when they are incorrect there is often a half truth buried in their incorrect conclusions. Still at the same time they do hold very strange theories sometimes, as for instance that the rock snake is the female of the cobra, which is one of their tenaciously held beliefs. So though I was slow to cast this Mahseer theory of theirs overboard till I had sifted it very thoroughly, still I think the number of such very small Mahseer being caught with the lips not partially but thoroughly developed, militates against their being females. My conclusion is that they are a distinct species. But what the function of these prolonged lips and beard may be I cannot conceive. It is left as a puzzle for my readers to work out.

If in many rivers there be more sorts of Mahseer than we are aware of, it presents a new difficulty which may well be borne in mind. When taking fry for stocking artificial lakes on hill sanatoria or elsewhere, it is generally held that if you put in six the probabilities are five to one that you have at least one of each sex from which to hope for propagation. But if in your six there are three sorts of Mahseer, so distinct in species as to refuse to breed together, then it may well chance that you have two each of three separate sorts, and not a sexual pair in the lot. The evident precaution to be taken in stocking is clearly to increase your chances by increasing your numbers, and by taking those also as much as possible at the same part of the same river at the same season.

The Mahseer having been more fished for in Bengal than anywhere else it had grown to be the common idea that he was exclusively a

Bengal fish, and at the time I wrote my first edition there was a general impression that there were no Mahseer south of the Nerbuddah. That idea is now exploded, and we now know that we have the Mahseer in South India and Ceylon, and we have him in Assam and Burmah, and the Chinese rivers that bound it, and up in Afghanistan and Chitral; and my belief is that if the mountain streams of China and Japan were tried, the mighty Mahseer would be found widely distributed there also, for in some paintings sent me from Japan, one fish figures again and again as if he were the favourite, the recognized king of fishes thereabouts, and he looks uncommonly like a Mahseer. Finding him as we do throughout the length and breadth of India and Afghanistan and Burmah and the boundaries of China, wherever there are mountainous rocky rivers, the probabilities are that he should be found equally in like rivers in Southern China and Japan.

People talk of *the* Mahseer, just as they talk of *the* carp, as if there was only one of them, and when fishermen who have caught Mahseer in the North of India, on the West Coast and on the East Coast of Southern India, get together, and describe the redoubted Mahseer somewhat differently before a circle of eager listeners, and thence come to dispute with each other as to who is most accurate, one is reminded of the old fable of the gold and silver shields which the two knights saw and fought about, and as a fisherman my advice would be, the less *carping* about it the better.

The name Mahseer is perhaps derived from the Hindustani words *maha* great and *sir* (pronounced *seer*) head, or perhaps, as a friend writes me from Delhi, on the authority of a native gentleman there who has been a great angler and is a well-known Persian scholar, from the two Persian words *mahi* a fish and *sher* a lion, in recognition of its gameness.

The size of the Mahseer depends much on the size of the river in which it is found. Size in a river affects both the feeding and the lifetime of fish, for a large river affords a greater quantity, a greater variety, and in India a more continuous supply of food than a small river does, and it also ordinarily affords greater opportunities for evading capture. The consequence is that there are rivers in which the Mahseer do not run above 10 or 12 lbs.; there are others, again, in which 40 lbs. or 50 lbs. is by no means an exceptional weight. I am inclined to the belief that the rockier a river the better it supports

Mahseer, for the Mahseer is undoubtedly a Highlander, clinging to rocky mountain rivers, and, as a general rule, straying but a slight way from the base of the hills into the plains, and straying chiefly where the rock continues. The reason I assign for this is that in most places in the tropics it is only the presence of solid rock that affords positive security against a river dwindling in hot weather below the level of the rock over which a pool finds its exit. I say in most places, as some rivers are swollen in the hot weather by melting snows. It is also among rocks that crabs and shell fish most abound, and there are fish that have suckorial discs by means of which they are able to attach themselves to rocks, and, so adhering, to hold their own against mountain torrents that would otherwise wash them down, and such fish thus remaining in the habitat of the Mahseer, afford, I think, no inconsiderable portion of their food. Instances of adhesive power are familiar to everybody in the limpet, snail, and foot of the common house fly, as well as in plant life, and in fish in the head of the remora (*Echeneis remora*) by which it attaches itself to the side of a shark, cod-fish, or vessel; and it may interest the observant angler to notice varying adaptations of the same property in several Indian fish, in the mouth, on the chin, on the thorax, at the pectorals, and I have been struck by the numbers in which one of these types of fish, *Discognathus lamta*, abounded amongst the rocks. This fish was also of convenient size to form Mahseer food, running as it does to about eight inches in length, but more ordinarily found at from four to six inches long. Where these fish and other congenial foods abound it is intelligible that the Mahseer should run to size, and delight to stay.

We hear of captures of fish weighing more or less about 100 lbs., and I have in my possession two heads of Mahseer, caught with a night line by, and given me by, Mr. G. P. Sanderson, author of "Thirteen Years among the Wild Beasts of India," a book that every sportsman, old or young, must be interested in, and most, even old hands, may profit from. Young hands should not essay heavy game without having read it. Concerning the weight of these fish, he wrote me:—

"As to my big fish I put it down at 150 lbs., the other 50 have been added in the telling. I had no means of weighing it but I found it was as much as I could lift a couple of inches from the ground by hugging it in my arms; no one but a big Mussulman peon in camp could do as much as this. I imagine that a man of 11 stone should have no difficulty in

lifting a man of his own weight off the ground if lying on his back ; I have since lifted a man of over 10 stone with greater ease than the fish. A native overseer with me, who was formerly in the Ashtagram Sugar Works, put it down at 5 maunds (or 140 lbs. Mysore) ; he said they were accustomed to deal with 5 maund bags, and he knew the feel of them pretty well. The measurements of the fish were : length, including tail, 60 inches ; greatest girth 38 inches ; inside lips when open, circumference 24 inches. The skin and head are in the Bangalore Museum.

"Of course my rough estimate of the fish's weight is valueless as fact, but you may believe that I was not out many pounds. It was an astonishingly thick and heavy fish for its short length. I have caught them 5 ft. 6 in., but not much more than 80 lbs. It had a shoulder like a bullock, steeply hanging over. I have caught about fifty of them, but my next largest was about 90 lbs. I have no doubt in my own mind that they run over 200 or 250 lbs., as I have seen teeth and bones of them far larger than my 150-pounder ; they are often caught by the natives."

So huge were these heads that one of them fully covered the skeleton of an unusually fine sambre's head, and I had arranged it in my hall with the sambre's head inside the Mahseer's head, and the grand antlers coming, as if naturally, out of the Mahseer's head, when a friend called. He looked round at the various spoils of bison, sambre, fish, etc., till he cast his eyes on this. "Rather a rare buffalo, isn't it?" said I. "Have you ever shot one like it?" "Buffalo!" he said, "buffalo! It's not a buffalo, but it's something of the cow tribe." I had owed him one. But he was not long before he left me again in his debt.

A friend of mine, J. C. H., whom those who recognize the initials will know to be an accurate man, assures me the following story is a fact. A carder, that is one of the jungle men that are never out of the forests of the Animullays, or elephant hills, was telling him the Mahseer at a certain place were as big as elephants. H. laughed at him. "Have you ever been there?" said the carder. "No," replied H. "Well then," continued the carder, reassured, "some of them are so big they would *swallow* an elephant."

But after all the Scotchman runs the carder fine, according to the *Field* of 7th December, 1889: "O! sic a fish! O! sic a fish! Aw never saw sic a brute in a' my life. Aw never saw a whale, but it was awfu' like ane."

Dr. Day, in his "Monograph of Indian Cyprinidæ," Part II., under *Barbus (barbodes) tor*, writes:—

"A noted sportsman in the N.W. Provinces, writing to me, says his largest fish taken with a rod and line was captured in the River Poonch, 24 miles from Jhelum; it measured from snout to bifurcation of tail 3 feet 11 inches, and weighed 62 lbs. . . . The cube of a fish's length gives his weight in pounds; fish may vary a pound or two according to condition, but the test is wonderfully correct."

I confess to a lack of confidence in this rule myself, for I think that fish of the same species vary much, not only with the condition of the same individual at different seasons and in different rivers and climates, but from individuality of figure, contracted probably from accidents of feeding in earliest youth. And the rule could not have equal applicability to Mahseer of the differing contours of Plate I. and Plates II. and III., for it takes no note of girth. This omission of the girth is met by a kindly correspondent writing me that he has found the following pretty correct. "Take," he says, "the length and girth in inches. Add together and divide by two. This gives the weight in pounds pretty near." Possibly it does when fish run over a certain weight, say over ten or fifteen pounds, but it surely must be very much out when they are smaller. For instance, a Mahseer of twelve inches long, without adding anything for girth, can never weigh six pounds. And if this be granted then the question arises at what point does the inaccuracy commence and end. Is there any scientific basis on which to give it definite limits? To my thinking there is not, and so I will frankly admit that I have ever regarded these and other methods of arriving at the weight of a Mahseer by its measurements as an unreliable process, bound to involve inaccuracy and very little better than simply gauging the fish by the eye, a process the result of which could never be recorded as an ascertained fact.

Weighing Mahseer.—The only reliable way of arriving at the true weight of a fish is to weigh it, and to do so as soon after capture as possible, because a fish loses much of its weight soon after it is out of the water, especially in a drying tropical climate. If in even your body, gentle angler, more than half of the constituent parts (58·5 per cent.) are water, let alone the whisky, you will allow something in a fish for "drying up" on being taken out of the water. A forty-six pound Mahseer lost two pounds of its weight in about an hour, while being

carried from the river to the camp. But the rate of shrinkage must be a variable quantity dependent on the weather.

The handiest implement for weighing with is the one figured in the margin, and called by some of the tackle-shops a steelyard, by some a spring-balance. I will follow the latter title as being nearer the mark, though it is neither a steelyard nor a balance, but a weighing spring. A steelyard proper has no spring whatever in it, and is solely dependent on leverage for its results. The steelyard of the tackle-shops, which I am calling after them a spring-balance, weighs by means of the spring afforded by the coil of steel wire.

You can buy these spring-balances shown in the margin of any size and quality you like, made to weigh anything from an ounce to sixty pounds, and they can easily be carried in the pocket so as to be on the spot for weighing a fish directly it is caught. The sizes and prices shall be duly given you in the chapter on rod and tackle.



When I bought my fishing tackle I thought a spring-balance weighing up to thirty-two pounds was big enough for any man. But one fine day I had the misfortune to catch a Mahseer well over that weight, and, of course, I was particularly anxious to know its exact weight. I had in camp two spring-balances, weighing respectively up to twenty-eight pounds and thirty-two pounds. I passed a stout cord through the rings of the two, and suspended them from a bough. Then a cord attached to the fish and passed over the two hooks suspended the fish simultaneously from them both. Reading off the weight indicated by the two instruments and adding them together, the result was the weight of the fish, forty-six pounds. If neither of the springs is pulled down beyond its power of springing, the total is bound to be accurate. I have tested it.

There is another way of doubling the weighing power of your spring-balance. But you must do it to a nicety or you will run into error, the divergence of an eighth of an inch anywhere begetting it. Take a stick of any length available, say about a yard, more or less, and, judging the centre, mark it, and measure off with careful accuracy the same length on both sides of the centre and mark them. Then attach a small loop of cord to each of these marked places firmly, so that it cannot shift its position. A slight notch at each marked place

will be an additional security against alteration of the position of the loops by slipping. Hang one end loop on the hook of the spring-balance, let an attendant hold the other loop so as to have the stick pretty level, attach the fish to the centre loop, and reading off the weight shown on the spring-balance double it for the weight of the fish. The use of the stick is simply the addition of the principle of the steel-yard proper to the weighing power of the spring-balance. If you work out the principle properly, you can as easily multiply the power of your spring-balance by four or other multiple; but the larger the multiple and the shorter the stick, the greater the danger of error from want of sufficient nicety of accuracy in the position of the loops. And if from dirt or rust or wear there is any initial inaccuracy in the spring-balance, of course it too is multiplied. The plan is an ingenious conception for an emergency, but if you have two spring-balances their use, as above indicated, is simpler and less liable to error.

How came I to have two spring-balances in my pocket at the moment of catching that forty-six pounder? Because I put them there for the express purpose of weighing that very individual before I started fishing that morning. I had been fishing that locality a year before, and with the aid of a friend who exhibited extraordinary capabilities in that direction, had succeeded in parting with all my spoons to avaricious Mahseer, and had on my last, the size of a table-spoon, when up came a huge beast close under my nose, showed a shoulder like an ox above water, and with one sudden blow broke off my spoon at the swivel. Arrived at headquarters at the end of my leave, I sought sympathy from a brother of the angle, not the one that expended my spoons, but one of the right sort. "How big was he?" he asked. "My dear fellow, I haven't weighed him *yet*, but he'll keep. He'll be in that same pool waiting for us this time next year, and then we'll be even with him." "But how big do you think he was?" he persisted. Well, the two biggest men in the station, a large one, were two brothers, the younger an editor, and the elder a doctor, and the doctor was the heavier, by about a stone, from being well filled out. Let us call them Cornly. "Well," I said, "if you wish me to be so confoundedly exact, he was about the size of Cornly—not the editor, the doctor." It turned out that my friend was able to get leave before I was, so I gave him a sketch from memory of the pool, and the holt. As soon as I could get my leave I followed him, and arriving at his camp after a long ride,

was greeted by him with awe-inspiring silence while he mysteriously led me round a tent and pointed, still silent, to a grand fish hanging up. "Oh, that is a fine fish," I began, when he cut in with an injured and decisive air: "It's Cornly." And then he added: "You try the same pool again, you'll find his brother there." And so it was that I started the next morning with two spring-balances in my pocket. It is their portability that commends them, as it allows of your weighing your fish directly after capture.

But if you prefer a spring-balance with a dish attached in which you can put at one weighing a lot of smaller fish, as recommended for labeo (Tank Angling, p. 61), or at will hang a bigger fish from the hook, then Salter's spring-balances with the circular dial plate are very convenient. They are readily procurable in the grocers' shops weighing up to thirty pounds, by ounces, for domestic purposes, but the makers, whence your tackle-maker can procure them to complete your order, keep them weighing up to almost any weight.

At the Sappers' and Miners' workshops, Roorkee, they make a handy spring-weigher that weighs up to twenty-four seers on one side, and to one hundred and twenty seers, which is two hundred and forty pounds, on the other, using different hooks and loop handles which give different leverages. The price is Rs. 10.12, by value payable post.

The steelyard proper, or old Roman balance, depends solely on leverage for its weighments, and once correctly marked, ought never to vary, for there is no spring to get strained or clogged with dust or rust. It has two hooks by which to suspend it. When suspended by the hook farthest from the short end, it will give you an enlarged reading of the minor weights. If you wish to weigh larger weights you must invert the instrument and suspend by the hook nearest to the short end. The fish is hung on the hook at the end, and the weight is moved along the bar till you arrive at an equipoise, when you may read off the weight of your fish, and chortle or otherwise, according as the fish comes up to your expectations or does not. You will get it in any butcher's shop, but it is clumsy, being made only for heavy butcher's work.

I made one for myself of wood, capable of weighing anything from a minnow to an ox, and so may you, though perhaps you do not need to be so comprehensive as I had to be. Take a neatly squared and planed piece of tough wood, twice as deep as it is thick, the strength

and necessary thickness depending on whether you are going to have it three feet long or six feet, and what weight you mean it to bear. The longer length will be found troublesome in carriage, and for the shorter length one by two inches will suffice. It may be, and should be, much lightened towards the end farthest from the fish. As near the thick end as the wood will stand it, say an inch off it, screw in the hook from which the fish is to be suspended, the bar or "beam" being with its depth perpendicular. On the opposite side of the beam, and an inch farther from the same end, screw in another such hook, and again another two inches further on. These last two hooks are the hooks from which the beam is to be suspended, and I will call the first mentioned A, the second B.

Suspend the beam from B, and if it does not hang level, weight the short end till it



does. This is easily done by screwing in one or more common screws half home at the very end of the short end, leaving them projecting so as to give the lead a hold, and then wrapping stout brown paper round the short end and projecting beyond it so as to form a cup, pouring into this cup molten lead more than enough, and when cool rasping down till your beam swings true from B. Then make yourself a one pound weight attached to a wire loop that will hang from any part of your beam, and taking ascertained weights of one, two, three, etc., pounds suspended from the fish hook C, move the one-pound weight W into the equipoising position on the beam, and mark off and number the places on the beam where the wire rests. Then suspend from hook A, and similarly mark the weights on the other side of the beam.

The principle can easily be extended to showing ounces, if you really want them, as you will doubtless see without my being further tedious.

Though purely fresh-water fish, Mahseer are more or less migratory in their habits, ascending during the floods considerable heights, two thousand five hundred feet to my knowledge in the Canara district, ten pound fish being there found half way up the Mercara Ghat, and travelling long distances for the sake of spawning. When the streams are swollen by the monsoon rains they are able to ascend to parts of the river till then unapproachable for want of water. There they find fresh feeding grounds that are inaccessible to them at other times.

There they linger till the diminishing stream warns them to be moving downwards. There they deposit their spawn, and thus secure for their fry, when hatched, waters then dwindled to dimensions much better suited to their puny strength than the deeper current of the lower river. The spawning done, the parent fish keep dropping gently downwards with the continually decreasing waters, and before the spawn they have deposited is hatched, they are completely cut off by paucity of water from their fry, so that till the commencement of the same monsoon in the following year they cannot return to devour them.

But they must not, after the manner of salmon, be considered back fish or foul fish when descending the rivers. Careful examination of the ovaries of many fish has satisfied me that the Mahseer does not spawn like the salmon all at one time, but just as a fowl lays an egg a day for many days, so in my opinion the Mahseer lays a batch of eggs at a time, and repeats the process several times in a season. How many batches it lays in a season cannot be positively said, but I should judge from the appearance of the ovaries that there were three batches.

Fishermen can judge for themselves, and may be interested in doing so. For this purpose cut the fish open from the vent to the mouth, and the ovaries will be found lying close against the backbone. There is no mistaking them, a thin skin, more like a quill in size than anything else at first, with the little round dots of eggs evidently apparent through. That these are in states of development differing among themselves in any individual fish will be easily recognisable; but which are more or less approaching complete ripeness for being laid, can only be learnt by the experience gained from comparison of different fishes. When nearly ripe the eggs will be hanging more loosely together, and the vent will be inflamed. After a batch has been laid the lower part of the tail, and the ventral fin, or the fin on the stomach, will be more or less worn, bearing marks, in short, of having been used to work out a hollow in the gravel for the reception of eggs. This ragged, frayed appearance of tail and fin will indicate, therefore, that one or more batches of eggs have been laid, although others for future laying may still be found in different stages of development in the ovaries.

If the fisherman sees no eggs in the long, thin, quill-like bag lying close against the backbone, between it in fact and the intestines, then he may be sure that he has got hold of a male with milt.

The salmon, we know, completely exhausts itself by the mighty effort of laying at one time about as many thousand eggs as it weighs pounds, and it is not surprising that it should then be in such a weak state as to be unfit for human food or sport, unable almost to take care of itself; and even after it has somewhat recovered, and become what is called "well mended" it cannot be expected to be the same fish in the river that it is in the sea. It is a sea-fish, and the river is not its proper element any more than India is yours and mine. It still pines for shrimp sauce and a furlough in the sea. The case with the Mahseer is, however, very different indeed. It gets through its egg-laying on the same principle as the fowl, not exactly one egg a day, but in batches at intervals, and does not feel the same drain on itself as if it had laid them all at one time. Moreover, it is all the while in its own element in the river, is getting as good feeding as it can ever have, and is recouping itself between the several layings. The consequence is that I do not remember ever to have come across a Mahseer looking so emaciated as to appear unfit for human food, though I have observed them to be in poorer condition at one time than at another. But that is very different from looking as a spent salmon does, big and bony-headed, lank and thin-shouldered, pale and haggard as if he had been to a ball or a pool till small hours every night for a month. It is a general rule that every animal, and for the matter of that every grass, etc., is in its finest condition when preparing to reproduce its species. A hen is never in better condition than when full of small undeveloped eggs, and about to commence laying them. It may fairly be concluded, therefore, that the Mahseer which is prepared to lay one or two more batches of eggs is in good reproducing condition, is in fact in high condition, although it may have already laid one or more batches that season. When it has completed its spawning for the year it has much deteriorated in flavour and lost all its richness, and I have known one case, but only one, in which we were all ill after eating one. I think it was exceptional, and not enough to militate against the general rule that a Mahseer does not become an unwholesome fish like a spent salmon, though he may be flavourless at the end of the spawning.

On the 30th September, 1882, in the Bawanny some Mahseer had milt in them, and some frayed fins, but the most part seemed excellently well mended, and in high colour.

A reason for the Mahseer laying in batches may be interesting.

Indian rivers are very variable in their depth, a tropical sun and a thirsty land drying up the streams that feed them, and reducing them rapidly to very much smaller dimensions than they boasted during the rains. The change in their size is both greater and more rapid than in European rivers. It would not be well, therefore, for the fish in them to spawn by the same rule as the fish in European waters. The ova laid in one place might be high and dry in a few days, and the whole laying lost. It would be like committing an army to the *Great Eastern*, instead of dividing the risks by consigning it to several troop-ships. By laying in several batches, not only are the chances of success multiplied, but the fry are more widely dispersed over the rivers, and by happy experience discover for themselves the force of the proverb, "The fewer the better the cheer." There is little doubt the fry of the Mahseer eat, amongst other things, the fry of the smaller sorts of fish; these are much bred in the smaller feeders. Where such streamlets fall into the river, therefore, each batch of Mahseer fry finds a separate *table d'hôte*.

An inventory of the contents of a Mahseer's stomach ought not to be without interest to a fisherman, for unless he knows what the fish is in the habit of eating, he cannot tell what bait to offer it. If he expects to be successful, he must offer natural food or something resembling it, for a fish is not so foolish as to take anything that is offered to it on the sole faith of the advertisement. Only reasoning beings do that. Let us then turn out this gentleman's stomach, and discover his weaknesses, as Prince Henry and Poins did Falstaff's, from the contents of his pocket. What do we find there? Aquatic weeds of all sorts, some taken intentionally, some when grabbing at the insects that live on them; seeds of the *Vateria Indica* or Dhup of the West Coast, which are about the size of a pigeon's egg; the seeds of many other trees also which hang over the river where it is forest-clad; bamboo seeds; rice thrown in by man; and unhusked rice, or paddy, as it is washed from the fields; crabs, large fresh-water crabs as big as the palm of a man's hand, and with back and claws so thick and hard that it is astonishing how the fish can have the power to crunch them into the small pieces in which they are found in the intestine; small fish, earthworms, water beetles, grasshoppers, small flies of sorts, water or stone crickets, shrimps, and molluscs or fresh-water snails are also found there, the latter shell and all, and smashed to pieces like the crabs.

Of all this category the easiest food for the fisherman to present in a natural form is a small fish or imitation fish.

It will also be observed that the food taken on the surface of the water is little in comparison with that taken under it, and at the very bottom. The fish, beetles, crickets, shrimps, are all found well under water; the crabs, worms, molluscs, quite at the bottom; and from the proportionate quantity found in them, the crabs, molluscs, and fish seem to be their favourite food.

This is what Paley would call "internal evidence." But we have also external evidence to the same effect, deducible from the formation of the outside of the mouth. The four fine feelers hanging down, two on each side of the mouth, which give him the scientific name of *barbus* or bearded (from the Latin *barba*, a beard), are indications of a bottom feeder.

What the thick lips are for I cannot say, but I hazard the surmise that it is not impossible they are to enable the fish to detach from the rocks the water-snails on which they so largely feed.

The upper lip is capable of being extended beyond the lower lip, and brought down to the same level, so as to form a cup on the bottom of the stream, and cover any small body, such, for instance, as the aforesaid molluscs detached from their hold by the upper lip, and being washed rolling down the bottom of the stream. The molluscs being thus detached and covered, are readily drawn up into the mouth by suction, the process by which a fish always gets its food into his mouth: for how else could it do it rapidly and easily in water? Let any one try to catch a grain of falling rice or other light substance in his hand in a bath. If he moves his hand quickly, the motion will be communicated through the water to the object, which will consequently evade his grasp. How else could a trout take down a water-bred fly that sits jauntily on the water ready to rise again if alarmed. I have seen Mahseer sucking in their food in countless crowds at places where they were habitually fed by the worshippers and priests at a native temple, and have heard their loud sob-like noise as they sucked in air as well as water in their hurry to secure the grains in the scramble. Dr. Frank Buckland has written something about certain tame codfish doing much the same. Anybody who has watched gold fish in a globe will have seen them constantly sucking in water, drinking it as people used to think in the dark ages, really breathing it, that is sucking it in, and passing it through

their gills, which are their lungs, for the purpose of getting out of the water the oxygen contained in it. By the very same process a fish sucks in a mouthful of water, and with it the fly sitting on it, and down goes the fly, down the little Maelstrom thus created. In the same way probably does the Mahseer suck up the detached molluscs, his peculiar formation of mouth enabling him to do it from the bottom where another fish could not.

To test their power of sucking up, I have fed them at a place where they were accustomed to be fed, and tempted them nearer and nearer, till they were well within observation, and having then thrown in a good handful of rice, so that much of it must sink to the bottom before they could get it, I watched them taking it off the sandy bottom. They sucked it up with great rapidity, so that it wanted close observation, but I watched them very carefully for some time, and distinctly saw the upper lip thrust out from its socket, and brought down over the rice, and then there was a clear act of suction for each grain, though the grains were taken up one after another nearly as fast as a fowl picks up corn. The fish the while were not swimming level in the water, but with their tails just enough inclined upwards to allow the pectoral fins to work without touching the bottom. The pectoral fins were so near the bottom that the motion contributed to the water by each vibration stirred up the fine sand, but they did not touch the bottom. By the suction from the mouth, however, I could not perceive that any sand at all was disturbed. They picked up the single grains of rice cleanly and cleverly, and quickly.

The Mahseer, then, is an accomplished bottom feeder. But as he is so not by means of a mouth formed for feeding off the bottom only, but by means of an upper lip which he can extrude or not at will, we see that the mouth shows adaptability for feeding at *various* depths at pleasure.

The means by which the large crabs, shells, and other hard substances are reduced to a mass of small pieces by the Mahseer is doubtless the formidable set of teeth in the throat. Every carp has teeth in its throat, placed so far down that they are not visible in the mouth; but the teeth of the Mahseer's throat are unusually formidable, and the bones out of which they grow are beautifully formed with a great surface at the back for the muscles to play upon, and that not directly, but with the advantage of a good leverage. If any *blasé*

individual thinks this "very like a whale," just let him slip a finger down a live Mahseer's throat, and I promise him the luxury of a new sensation.

These pharyngeal or throat teeth are not set in sockets like human teeth, but are continuations of the pharyngeal bones. Unlike other teeth, in fish instead of dentine, they have a coating of enamel, which is continued to their base. There seems to be no provision for renewing them in case of loss, no adjoining row of teeth as in the shark, no second tooth below as in the human being; and in an instance in which I noticed that two were wanting on one side, the place where they should be was quite smooth. They are not used for capturing food at all, but for crushing it in its passage down the throat. The fine perforations through which they are supplied with nerves and nutriment are easily seen. The attachment of the muscles to the pharyngeal bones is also very apparent and in keeping with what we know of the power with which they are used.

Professor Spencer F. Baird, Commissioner of Fish and Fisheries in the United States, says in his report for 1875-76, that the pharyngeal teeth of the common carp, *Cyprinus Carpio*, are shed annually a little before spawning time. Whether or not our large Indian carp, the Mahseer, does the same is a point that it may interest some to observe. I do not think it does. I certainly have not examined carefully for this specific purpose, but I have caught Mahseer before their spawning time and have never noticed any indications of such shedding, and I think I should have noticed them if they had been there. For instance, I have seen broken teeth unreplaced, and I have never seen loose teeth, or incomplete young teeth. If the teeth are shed one can readily imagine that it would influence the feeding of the fish at that season of the year. I certainly have found times even with clear water, when the Mahseer could not be induced to look at a fly or fish, and I was at one time puzzled for a reason. Still it does not follow that want of a new set of teeth was the reason, and it may quite as well have been the east wind, and I have now no doubt that it was the cold wind, for I have noticed times without number what a marked effect a cold wind has on the feeding, not of Mahseer only, but of many other Indian fish. But of this more in another place. Let it suffice here to say that a cold wind is quite enough to account for Mahseer being put off their feed, without taking their abstinence to be in any way connected with dental troubles,

and my own opinion is that Mahseer do not shed their teeth. Still I am open to conviction, and there the question is for enquiring anglers to investigate, Do Mahseer shed their pharyngeal teeth annually as a stag sheds his horns, and if they do, when do they shed them, and how long are the new teeth in coming on, and what is the food, if any, during the toothless period?

The Mahseer has also great power of jaw by means of which it is able at a blow to stun a live fish, and to make up by compression for the absence of the teeth usually found in the mouth of predacious fish. That it makes other use of it also to the detriment of the angler will be found in the next chapter.

CHAPTER IV.

CIRCUMVENTING THE MAHSEER.

“‘Take my bait,’ cried Hiawatha,
‘Take my bait, O king of fishes!’”

LONGFELLOW.

SOME people complain that the Hindu does everything in a way opposite to that which you would naturally expect of a sane man, because opposite to that way in which all Europeans are accustomed to do the like acts. On entering a house he has not the ordinary politeness to take off his hat, but instead thereof, he kicks off his shoes; in place of making himself a little extra civil before a big-wig, he folds his arms, and stands bolt upright, and so forth. Similarly the Mahseer, being a thorough Asiatic, does many things by contraries. If you expect him to take better, as any decent salmon or trout would, when there is a spate in the river, you will be very much mistaken. Except for a live bait not a fin will stir then. If you see the river discoloured, you had very much better not waste your labour and your patience on it, for you may be sure you will not catch a single fish either with a fly or spinning. You must wait till the river is clear again, or at least fairly clear, wait till after the time you would consider favourable for trout or salmon, wait till you can see with ease the small pebbles at the bottom in four feet of water. Though I have taken Mahseer freely when the river has been the least bit tinged by a thunderstorm, still the colouring is so very easily overdone that as a rule one is afraid of it. A very little more colouring, such as you would hail as an improvement for salmon, would be fatal to Mahseer fishing, while it does not matter how clear the water is, it may be as clear as crystal, and Mahseer will take well if only the fisherman will keep carefully out of sight. So it is much safer, very

much safer, to give the preference to clear water, the colouring ever so slightly, though beneficial to that extent, being a very touch-and-go business. Artificial colouring of the water has on trout the same effect as natural colouring from rainfall, and it is a semi-poaching dodge, never condescended to by me, dear reader, no, not even as a boy, to puddle a small stream, and then take them out with a worm, and this at times when the day is so hot and bright that they will not look at a fly; but with a Mahseer, if the river is coloured in the middle of the fine season, say, by the drainage from rice-fields, freshly ploughed and swamped for the second crop, you will find it fatal. And colouring from melted snows has the same fatal effect. This peculiarity of the Mahseer is more against good fishermen than it is against tyros, because it is exactly opposed to all the experiences of the former, and those who do know something about fishing in England are consequently more likely to be on the wrong tack in India, than those who know nothing or next to nothing about fishing in general, for they would naturally arrange to fish at the very time when in India they are least likely to have sport. I have, however, tested this question pretty thoroughly, and am quite satisfied that it may be laid down as a safe rule, that it is useless to fish for Mahseer except in clear water; it must be at least so clear that you can see the small pebbles at the bottom with ease in four feet of water, and it may be as much clearer as ever you like. You need not be the least bit afraid if it is as clear as crystal, indeed it ordinarily is so through all the best fishing months of the year. I have fished in vain with the water so far cleared after a spate that I could see the small pebbles in two feet of water, and that with great patience and diligence in known, good, easily commanded water, and with a large and very bright spoon, and yet I only stirred two fish, and even they ran short. I conceive I must, from knowing localities, have taken my bait very close to their noses, and kept it dallying there provokingly, and that even then they missed it from visual obliquity in the coloured water. I am for bright water, therefore, and in this respect the English fisherman must forego his old creed, and adopt a new faith as fully as did the thorough-going young scamp of an undergraduate who, unable otherwise to find fit expression for the radical change for the better that had taken place in his resolutions, informed his friends that he had not only "turned over a new leaf," as parentally entreated, but *several libraries*.

I may here mention that "Mountaineer" is quoted by A. O. H.

in the *Asian* of 20th December, 1881, as having written to him as follows:—

“It is a very curious thing, not generally known, that the Ganges is just the reverse of all or most other Indian rivers in regard to Mahseer fishing. Thomas, in his book ‘The Rod in India,’ says about the rivers in Central and South India, ‘It is no use going out to fish unless the water is quite clear;’ and a friend of mine in the Kangra valley tells me it is the same in the Beas and other Panjab rivers. Here you may just as well stay at home, unless the Ganges is a little discoloured. It gets clear about the 20th to 25th November, and for several years I have found the fish cease to bite then, and continue to refuse to do so till March, unless a fall of rain discolours the water, when they take readily until it clears again.”

And this peculiarity of the Ganges is confirmed by another observer.

I may further mention that on one occasion I had Mahseer running pretty fairly while the rain fell off and on, and the stream was just perceptibly coloured, but when the rain ceased, the weather became quite bright, and a cold wind set in from the east, they altogether ceased running, and I had four consecutive blank days. But in this case it was not the brightness of the water that wrought my woe, but quite a distinct factor, the cold wind; and I notice it that the two factors may not be confounded, for I have observed again and again that a cold wind has the same effect on the appetites of many Indian fish, as it also has in some places on trout in England, though rivers differ, trout behaving specially well in some rivers during the prevalence of a cold wind, though, in other places, they are quite “put down” by it.

Even humans are affected by a cold east wind, and an old party who, from sundry aches and pains had grown crusty, and always consulted his weathercock to see if the wind was in the east before he would venture out, was kept in for a fortnight by a loving young nephew climbing up and tying his weathercock in the east. Little blackguard! Who would not be a boy?

One mode of fishing for Mahseer there is that may be followed in coloured water. I was not aware of it when the above remarks on bright water were written in the first edition, but those remarks are thoroughly applicable still to all the ordinary methods of fishing for Mahseer, and are worthy to be impressed as contrary to ordinary ideas, and live-bait fishing is somewhat of an exceptional way to fall back upon in coloured water, rather than to use by preference to fly-fishing or

spinning. I will therefore let the above remarks stand for the benefit of the great majority of fishermen, and will refer the man unfortunately overtaken by a spate, and the man who prefers that mode of fishing, to a separate chapter on live-bait fishing for Mahseer.

To any one with an eye for fish a single glance is sufficient to show that the Mahseer is a carp. It has a leathery mouth without a vestige of a tooth in it anywhere; the ordinary conclusion would be that carp-like it is not calculated to prey on small fish, but more likely to be taken with dough or a lobworm. An examination of its stomach has, however, told a different tale (page 44), and thence it was that I first learnt how great a fish-eater the Mahseer is. It has the same weakness for a fish diet as its congener the English chub, only it has it to a much greater extent.

But we have not yet done with our friend's Asiatic contrarieties. This mealy-mouthed gentleman, who looks as if his soft leathery lips could not hurt anything, has a peculiar way of killing his fish. He has no teeth in his mouth wherewith to hold any slippery little fish he may catch, and prevent its struggling out again before he can swallow it. In lieu of this he is therefore provided with great power of jaw, and he kills, and holds his fish, by compression, violent compression. It is difficult to conceive how so soft a mouth can give the bite it does, can bear to give the violent crush it does; but there is the analogy of the tiger, which has a yielding springy pad, on which it treads noiselessly as on velvet, with which it can however strike a blow that will break the backbone of a buffalo, and crush in the cranium of a man. Doubtless the tiger rigidifies the muscles of the foot till the velvet pad is like iron at the moment of delivering its blow, and possibly the Mahseer has the like power, for that it has very great muscular power in its mouth and lips is beyond question, and why should it not be able to harden those muscles, as you can your calf or your biceps, or a cat can her pad when much pleased, at which times her hard tread is very audible? That the Mahseer can exert great power of compression with its soft mouth I have more than once had clearly proved to me, but the first experience that convinced me is sufficiently conclusive. My spoon bait, which was nearly new, and for weight's sake unusually stout, and in thorough repair when I cast it in for a spin, was doubled right in two, and crumpled up like a piece of paper, when I landed my fish, and took it out of his mouth. He must have happened to catch it edgewise in his

mouth as it spun, and thus been able to exert his strength on it ; for had it not been exactly edgewise on, it would have turned and slipped away from his jaw as he pressed it, and thus it would have got flat in his mouth. Probably few fish get a fair bite at a spoon at the very angle of the spoon in the very part of the mouth required to produce such an effect on such a hard substance ; the chances must be much against it, and that would account for the same result not being frequent. But once seen there was no longer room for doubt about the power of the fish ; the spoon was whole and sound when cast in, was cast in deep water clear of rocks, was not run against anything by him, for it was well inside his mouth when I took it out directly he was landed. Had I tried to produce the same effect, it would have required a good downright blow, with a hammer and anvil to help me. I then bethought me of the spoon of a friend which was thinner than mine, and which was much indented as I had thought at the time by rocks. I bethought me too of the many hooks I had lost unintelligibly ; I knew I had a light hand acquired by killing trout on fine tackle, and yet treble hook after treble hook had been smashed, sometimes before I had felt my fish at all, and some of them had been curled up like a ram's-horn, and curled inwards as from outside pressure, not outwards as from tension. The murder was out ; they had been crunched up by the Mahseer's power of compression, and the treble hooks had suffered more than the single, because they had offered resistance, while the single hooks had turned in the mouth and evaded it. On this point, one correspondent asks the question, "How about the teeth inside the gills?" to which I answer that the Mahseer has no teeth in the gills, and the only teeth he has, those in the throat, could never have got near the spoon, for it is only in the act of swallowing that they can be brought to bear, so as to comminute the food passing down the throat. No, it is to compensate for the absence of teeth in the mouth that the Mahseer has this great power of compression, compression that in an instant squeezes all the life out of the fish preyed upon, and leaves it dead and motionless in the mouth, with no need of teeth to hold it, and so it is passed down the throat head foremost, always head foremost, a small fish not being masticated by the pharyngeal teeth, and only hard substances like molluscs, and the claws and shell of the fresh-water crabs, being comminuted in their passage. These my views on the Mahseer's power of compression have, like not a few others put forward in the

earlier editions of this little work, been only confirmed by the further experience of myself and other anglers, and stand no longer on comparatively few instances however striking. But it would be tedious if I were continually pointing my readers to confirmations, and I shall indulge the hope that they will be kindly content to take my word as they did at the first.

These three main points, then, being borne in mind, the necessity for fishing in clear water, the Mahseer's love of small fish, and its power of smashing by compression, we shall be in a better position for arranging to circumvent it.

There is yet another point which may as well be reverted to before proceeding further, and that is the bottom-feeding habits of the Mahseer. This was deduced in the last chapter from the evidence of the contents of the stomach, an organ not given to telling fibs, and from the formation of the outside of the mouth. I lay stress on this habit from a fishing point of view, because I am convinced that a due appreciation of and allowance for it will lead to better sport. I lay stress on it also because I know it is commonly disregarded. It stands to reason that you are more likely to catch a fish by seeking it on its feeding grounds, and there offering it its natural food, than by requesting its attention in a somewhat unusual direction, the surface, and there too to a novel object, not much like anything in creation, a gaudy salmon fly. I lay stress on this point because so many fish for the Mahseer with an artificial fly at the surface of the water, and the salmon fisher is for more reasons than one very loth to give up his fly. The fly is cleaner and much less troublesome than any other lure. It is much easier to throw a salmon fly than to spin a fish, and Mahseer doubtless *are* caught with a fly.

The Brahmin, who is as punctilious about his food as a much-fished trout, describes a pariah as "one who eats without asking," and if the Mahseer were not in respect of food as omnivorous as a pariah, it would never take down such an unearthly thing as a salmon fly in the promiscuous manner it sometimes does. Though it does take it, and there is some sport to be had with the fly, still in my opinion it is not a natural bait, and therefore not the best lure that can be offered, and the sport thereby obtained is decidedly inferior to that to be had by spinning. Trout are doubtless to be caught in England by very poor fishermen, with very incorrect fancy flies, still if the correct fly be used,

that is, a good imitation of the natural fly at the time on the water, it is undeniable that the chances of sport are sensibly increased. Similarly, if the reader will waive his prejudices for the fly, and will spin deep with a small fish as bait, I will engage that he shall not only kill more, but also better fish, than with a fly. I think I may safely say that if he can spin as well as he can fly fish, he will kill three Mahseer spinning to one with a fly, and that the total weight in pounds shall be again multiplied by three.

Still he may say that he prefers the fly, that he loves the excitement of the swirl on the surface, and the rapid approximate guess at the weight of the fish he has just missed, has all but caught, and has at least had the pleasure of seeing, or better still loves to form a rapid idea of the size of the fellow he is well into, and is in for a fight with, and means to take all the more pains about taming now he sees he is such a grand one.

He may say he prefers the fly, and prefers it so much that he would rather kill fewer by that means than more spinning, on the same principle as he would rather catch fewer with the rod than more with the net. If so, by all means let him stick to the style of fishing from which he derives most pleasure, and I will admit that, besides the advantages already conceded, the fly has this still further recommendation, that it can be thrown farther than a minnow. There are pools and runs the best parts of which cannot be reached with the minnow, but that can be well covered with a fly, and there are sometimes places in which, from rushes or weeds, the water cannot be reached at all spinning. For such occasions a fly collar can be carried in the fly book, and bent on till you come to ground where it can be exchanged again for the spinning tackle.

But as there are places where it is impossible to bring spinning into play, so are there places where the river is so overhung with forest on all sides that it is difficult enough to get to the water's edge at all, and impossible without a boat to find room to throw a fly. In such places even the staunch advocate of the fly will find it advantageous to have a spinning collar in his pocket, ready for exchange till such time as he can revert to his favourite lure. If he spins at all well, the result may induce him to keep the spinning tackle on a little longer, and perhaps may eventually convert him.

But if he still prefers the fly, or at any rate wishes to use it on

occasion, I must request him to be good enough to repair to the chapter specially devoted to his subject.

In either case, however, let him remember above all things that he is fishing in clear water with a bright sky, and that he must consequently be much more careful to keep out of sight than if he were fishing in England, on a cloudy day, by a river more or less coloured.

CHAPTER V.

SPINNING FOR MAHSEER.

“That fish that is not caught thereby
Alas! is wiser far than I.”

DONNE.

THE inventory which we took in a former chapter (Chap. III.) of the contents of this Asiatic gentleman's intestinal canal showed that he was as omnivorous as the immortal Mr. Samuel Weller was omnibibulous. Metaphorically speaking, the accommodating answer of each of them is “all taps is vanities”; but the particular vanity of the Mahseer, or at least that which we are best able to oblige him with, is, as we have seen, a small fish; and the question next arises how is the dish to be served.

Every one knows that fish is good for nothing if it is not fresh, and a pike or perch carries this maxim so far as to prefer them “all alive, alive oh!” A little roach all alive and kicking has peculiar charms for a jack, but well nigh irresistible though it may be, and many staunch advocates though it may have in consequence, still I am not one of them. Except it be for a trimmer, I should prefer not to use it; my idea being that with a dead fish you can cover so much more water, that you can show your spinning bait to ten or twenty fish, where your stationary live bait will be seen by only one, and perhaps not that for a while. Advertise freely and you will be sure to find a “claimant.” May he be as heavy as Sir Roger. By the ordinary law of chances the odds are you will come across more taking fish out of the ten or twenty than in the one who happens to live in or near the hole into which you have cast your live bait; and you cannot be constantly moving your live bait or you will kill it. You must just quietly drop him into a likely hole, and leave him to “paddle his own canoe”; whereas with a spinning bait you can take it saunteringly all through those deep eddies

that ought to be full of big fish, just under those big rocks, and as close to their edge as you like ; you can playfully dally awhile in front of any pet corner ; you can hark back after a little respite to where you have seen a fin move ; in short *you* can "paddle your own canoe" when and where you like, and not be at the mercy of your live bait, and then if you can really paddle well, your bait will be as tempting as most live baits. The sequence in my mind is that a good spinner will kill more jack than a live-bait fisher ; but of course all depends on his being a good spinner, a natural painstaking one. The live-bait lover certainly has one very great advantage, which is of more importance than he is probably aware of ; that is, that he is generally more out of sight. Out of mere idleness, perhaps, without any preconsideration, he lays down his rod, and sits leisurely down a little way off, and this is in truth *the* most weighty reason why he should catch more fish than the dead-bait spinner, who is perhaps standing prominently out in fine relief on the very edge of the bank, and constantly moving his legs and arms in the action of walking and spinning. How men can think a fish is such a fool as to take a bait, when it sees the "*vultus instantis tyranni*" on the bank, I cannot make out. Still they do think it, or at least ignore the visual organs of the fish, and go on fishing all their days after the manner of Hiawatha, "jawing" at the Sturgeon Nama.

" 'Take my bait,' cried Hiawatha,
 'Take my bait, O king of fishes !' "

"Hiawatha's fishing" is a very pretty study of what *not* to do.

If the spinner of dead bait will be careful to conceal himself from view of his desired prey as thoroughly as the live-bait lover unconsciously does, he will not be at the great disadvantage he otherwise generally is ; on the contrary, he will be at an advantage, in that he tries so much more water with his lure.

And as to his lure, too, I am convinced he is not at the discount he is commonly thought to be. If he manages it badly, of course he cannot expect to fare well, but if he is really a good hand at spinning, his bait will look every bit as natural as a live fish, and, strange to say, sometimes even more so. Watch a live bait and a well-spun minnow and compare them. I will back the spun one. The live bait has, perhaps, a great hook all unconcealed and too apparently sticking out of its lip ; or if baited in the side, it is soon lying somewhat unnaturally on

its side ; or it has managed in its lively gyrations to make a tangle of its line, and encircle itself therein ; or it is more dead than alive, and looking somewhat suspicious ; or may be it is off altogether, and the angler is in happy ignorance of the fact, and in blissful expectancy of a momentary run at a bare hook.

My sentiments then are that, if the angler will be at the pains to spin delicately, will take the trouble to conceal himself thoroughly, and will bait his fish neatly with the hooks well concealed, he will in clear water kill more by spinning a dead fish than by using a live bait.

In coloured water the objections to prominent hooks may not be so pertinent, but of that hereafter. Only here be it remembered that, in live-bait fishing, the hooks must of necessity be obvious, for they cannot be embedded in the flesh as much as in a dead fish.

I have killed Mahseer with a spoon, with a phantom minnow, and other imitation fish of sorts, and with a dead fish, and there is something to be said for each of them, something that will commend itself differently to different anglers in proportion as they like taking trouble or not.

The spoon bait is, of course, only an imitation of a fish, and a rude one. So rude indeed, that, to the uninitiated, seeing it only in the hand, it is surprising that anything that swims can mistake it for a fish. Still, when it is in motion in the water, they do so mistake it, and take it freely, so that it is by no means to be lightly esteemed as a lure, and does a great deal more business than would be supposed. One side being copper or gilt, and the other, the inside, being silvered, it flashes as it revolves, and is seen a long way off in consequence. But if too closely inspected, the rudeness of the imitation is so apt to be discovered, that it is seldom used in England except in coloured water. As it is in clear water that Mahseer fishing is mostly done, that would seem to place it at a discount in India, but it doesn't, and so long as it rotates sufficiently to give it a life-like motion, the deception is complete, for it is deception, Mr. Angler, deception that you are practising. For choice, the use of the spoon in clear water should be confined to the runs and eddies ; for in the quieter waters you could not get it to revolve so rapidly without pulling it faster through the water than is advisable. But fish will take it even in the clear still pools, though in such water the dead bait is more tempting. Still do not think the spoon by any means useless in still water, for many a good Mahseer has been

taken with it in still pools, and Marral and Freshwater Sharks I have killed with it even in ponds. In a good strong run you may even keep it stationary, nay more, may also lower it slowly down stream, the stream doing all the spinning for you.

Relying on it chiefly in running and rapid water, I prefer the spoon to be somewhat heavier than it ordinarily is in England ; for if it comes to the surface it ceases to have a hold on the water, and consequently ceases to spin. Having regard, moreover, to the bottom-feeding propensities of the Mahseer I prefer to spin deep.

One correspondent specially commends to me his favourite tackle-maker's "*scaled* spoons," as if any Mahseer could possibly see the *scales* when the spoon is revolving ; and even supposing that he could, surely the spectacle of scales on *one side only* would be so irresistibly comic that any Mahseer with a sense of the ridiculous would be too convulsed with laughter to think of feeding. The only extra advantage of the *scales* is that they catch *anglers* as well as fish !

As to the different sizes of spoons a word may be better said in the chapter on tackle. I will only mention here that I have been so hard pushed for bait in camp that I have been thankful to lay hands on a mustard spoon, and convert it to the much more useful end in existence of being a beguiler of good Mahseer.

Apropos of this I may be allowed to tell a little incident. I was fishing in a densely forest-clad part in which a guide was necessary. I was fishing with a spoon, and my guide sat watching me listlessly till he saw me get hold of, play, and land a decent Mahseer. Then he woke up and was all attention. He closely watched me unhook the fish, and straightway begin spinning again with the same spoon, and soon catch another Mahseer. It was too much for him. He could contain himself no longer. Is it lawful for me, he asked, to see the hook ? Certainly, I said, and handed him the spoon. He turned it over and over in his hand and scrutinized it closely and deliberately. Then, with a motion of the head, and a look of being thoroughly satisfied that he had got to the bottom of the mystery, he solemnly handed back the spoon. He asked no explanation of me, so I gave none, but went on fishing and caught more. That evening he got a rapt audience round him, and expounded the whole matter. "That gentleman catches Mahseer by magic of hand, he puts on no bait at all. I saw it with my own eyes. It is pure magic of hand." He verily believed it.

A spoon has this further advantage that it is much lighter than a dead fish, and if you use a springy fly top, as I do, in preference to a stiff spinning top, as used in trolling for pike, you will find that its comparative lightness will allow of your throwing a spoon of ample size, whereas with a natural fish bait you are restricted in size by the weight which your top joint will lift and swing out without being strained or broken.

With a pliable 16-ft. salmon rod you may safely use a spoon of any size up to $2\frac{1}{2}$ inches in length, while a 2-inch spoon is as much as ever you should throw on a pliable 14-ft. double-handed trout rod, if these rods are as light and pliable as they should be, and, unless you are careful, you had better make it $1\frac{1}{2}$ inch.

This fear of straining is probably the reason why stiff spinning rods have lamentably come to be thought the right rods for Mahseer. But more of them anon.

There is something very slippery about a flying spoon; you cannot catch hold of it without coming well on to the hook, and I think that you lose less runs at a spoon than at any other bait. A fish cannot lay hold of it anywhere without slipping off it straight on to the hooks.

The spoon is also as clean fishing as the fly. As soon as you have killed a fish and removed it from the hook, your lure is ready again, whereas with a dead fish as bait your bait has probably been spoilt, and time and trouble must be spent in re-baiting.

Moreover, you may not always be able to procure bait; at any rate not immediately on your arrival at your fishing quarters, and the first evening's or morning's sport may be lost if you are not prepared with a spoon or an artificial fish.

With so many considerations to commend it the spoon is in practice more used than any other lure, and in consequence more fish are killed with it than with any other bait.

I have used a phantom minnow too, but it is too light for fishing deep, and other artificial minnows, and any salmon minnow will kill, but it should be specially dressed for this country, as will be seen in the chapter on tackle, or it will be quickly demoralized. There are fishermen, also, who have used an artificial dace or roach, such as are made at home for pike fishing, and had sport with them. But they are not fitted for all waters, only for the larger rivers containing much heavier fish than do the smaller ones, and a spoon is preferable to them.

Of all bait, however, the one that I consider the most killing, when available, and if you will be bothered with it, is a dead fish on light spinning tackle. Any small fish from 3 to 6 inches in length will do, but if I am picking out of many in a bait-can I select, and use first, those that are exactly 4 inches long, tail included. I prefer this length both because it is a nice edible size, and generally appreciated, I fancy, by the majority of Mahseer, and also because it is a convenient weight to throw out from the ordinary fly top of a light salmon rod. If you have a much heavier bait on, it will rather strain a fly top to be constantly throwing it, and if you put on a special trolling top for the purpose, not only will you certainly be broken, but you cannot change from spinning to fly fishing at will, or at least you cannot change without more trouble, and the loss of more time, than it is worth; whereas you ought, with the aid of an attendant, to be able to do it under the minute, and to take just a dozen casts over that pretty bit at the far end of the pool which you could not quite reach with your minnow, and which it would be a positive sin to leave untried, before passing on to other water, and replacing your fly collar by your spinning trace, the former being wound round your hat, or better still, thrown down for your attendant to crown his turban with at better leisure than you can possibly be expected to have while so deeply engaged.

These were the considerations that first led to my spinning with a fly top in old experimentalizing days, when also I wanted to make a fair trial which was the more killing bait, a fly or a fish. I came thereby to learn, however, that a pliable top carries with it very much more important advantages. The Mahseer takes its fly perhaps much as a salmon does, rising at it and descending quietly to its old place at the bottom till it feels the hook, but even then its first rush after feeling the hook is very much more violent than a salmon's. It is this grand first rush that is the glory of Mahseer fishing. But in spinning there is added to it yet another danger, the Mahseer does not ordinarily take its fish quietly as if it knew it would be unresisting like a puny fly, but it seizes it, not always, certainly, but not uncommonly, with an angry blow that gives a sudden jerk to the line; it comes at the fish bait with a swoop like a hawk, and seizing it passes swirling by at speed. To this angry jerk is very quickly added the grand rush that follows on feeling the restraint of the hook and line. Then it is that you find out, as mentioned in Chapter II., that no hand is light enough. The Mahseer is too quick

for you. Before you can drop the top the mischief is done. There has been a sudden smash, and your friend has gone. You think, dear me, that was a splendid fish, my tackle was not strong enough. I venture to say that the probabilities are that the fish that broke you was not a bit heavier than the last you killed on that same line, and that if you had only got on terms with him at starting, by means of a pliable rod, you might equally have killed him also. I do not deny, be it remembered, that the Mahseer do grow very large, and do want very strong and fresh tackle, but I maintain also that much of their violence may be neutralized, and the necessity for coarse tackle obviated, by the use of a pliable fly rod in preference to a stiff trolling rod, or even a trolling top joint. I say not only fly rod, but pliable fly rod, for fly rods for salmon are made both stiff and pliable, and I prefer the latter, and I would now never think of using a spinning top joint. The rod is in effect only the hand end of the line. It is the last connecting link between the fish and the hand. I do not understand the term Mahseer rod as if it were necessary to have something *sui generis*. An ordinary pliable salmon rod is the one on which I rely by preference, and I hold that if you strengthen your rod by stiffening it you must necessarily proceed to strengthen also your line, your collar, and your snood; and having done that, you are fishing with a barge pole and a cart rope. You are substituting brute force for skill. Don't call it sport. Sport is the delicious triumph of skill. The man with the barge pole gets very little of that, poor fellow, and he has the labour of carrying a heavier rod and a heavier winch than is really needed. Give me the magic wand that promptly "stoops to conquer," that is sensitive of every plunge, that aids me like a friend in meeting it promptly, that works with me hand in hand throughout the fight, almost speaks to me of the next effort of the enemy, always anticipates me in foiling it, and when the battle is won, draws himself up as straight as an arrow, and breathes again for fresh contests. Ah well! I have some dear friends among my rods with many mutual confidences, shared with none else. They have had as much to do with the killing of many a fine fish as I have.

They have had to do with it in more ways than resisting the first rush. I have, after some play, killed a marral of some 5 or 6 lbs. which had one hook pressing against a tooth, and not embedded anywhere, and which dropped off as the landing net took the weight off the line. Would such a thing have been possible with anything but a

springy top? I have, after a vigorous fight in rough water, shelved a Mahseer of some 5 lbs., as memory serves me, which had one hook embedded half way up the barb in the hardest part of the gill cover, in short, it was only pressing at right angles against the bone, and dropped out as I took off the tension. Who did that? Not I, but my springy top. Once more. In very rough water I hooked a Mahseer, which, after a mile of exposure on a coolie's shoulder in the sun, scaled, I see in my notes, $30\frac{1}{2}$ lbs. in camp. Away down stream he rushed like a madman, screaming out the line, though the basket-boat was started after him as promptly as possible; presently he stopped, and the basket-boat, with its way on, overshot him. Of course I was telling the boatman what to do, and he was paddling and I reeling up, all we knew. In the heat of the action as we were making downwards towards still water, where there was plenty of elbow room and a bit of shelving bank, everywhere else huge precipitous rocks overhung us, there was a cessation of vibration, the telegraphic communication between me and my fish was interrupted. Promptly we paddled above him, got him out of his arm-chair on some rock at the bottom, and began conducting him, foot by foot as he gave way, down another division of the river away from his friendly arm-chair, which he hung on to like a dentist's. For the first time I got just a momentary glance of the commencement of a 9-ft. spinning trace. It was refreshing to see signs of getting better acquainted. But down it went again into the dark depths. Finally I landed, got the boat and the natives out of the way, and after fifty-two minutes of good hard fighting shelved my friend. As I stooped down to unhook the fish, the hook tumbled out. It had only been round one ray of the tail fin all the time, and the hook had been so small a one that it little more than encircled the ray at its base. Now, who killed that fish? Not I, certainly, but my springy rod. I defy the best fisherman going to have killed that fish with a barge pole. This, then, is one of the advantages of a springy elastic rod. I know of an angler going so far as to say that with such rods he did not want any barb to the hook, and preferred them without for trout, as they pierced more readily. There, however, I cannot follow him. It is with special reference to the first rush that the speciality of a Mahseer rod should be pliability, elasticity, on no account rigidity.

An Irish friend has been down on me with the impatient remark: "Why don't you call it a Castle Connel rod?" Why, because that would

be rather to limit it, a Castle Connel rod not being the only pliable rod that is made, and my chief aim has been to give the *reason* for discarding the barge pole that was formerly accepted by the trade as the ideal Mahseer rod.

"Once use a 16-ft. Castle Connel rod," writes another, "and you will never use anything else. It is equally perfect for spinning or fly fishing, and you may use a single gut on it for both. It is the perfect rod." And isn't it just that I've been telling him?

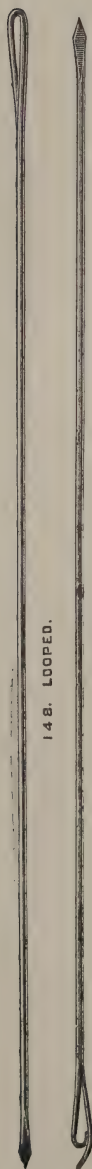
I have two ways of baiting. One is more troublesome than the other, but it is in my opinion the more killing, so I give it first.

Having selected your bait alive and fresh out of the bait kettle, humanely kill it thoroughly with a flip or two on the back of the head, but temper your physical energies with a little discretion, so as not to knock it about.

"There is wisdom in sucking eggs," and there is a right and a wrong way of killing a bait even. If you have the loach-like *Ophiocephalus gachua* to deal with, as hereafter recommended, you may flip away at his head for a long time without killing him, and though you may half stun him, you will be horrified, when putting the baiting needle through him, to find he is still alive and kicking, whereas if you give him one good squeeze in one hand so as to crush his internal organs, he will die instantly. If he is too slippery for you, a little river-side sand will soon get over that difficulty.

You must not follow this same plan with dace-like fish, or with the Chilwa, however, for if you do, the silvery scales will all come off, and the bait will at once look dreadfully dishevelled. Moreover it is not necessary, for the dace-like fish have as thin a cranium as a snipe, and a flip on the head soon does for them, and with them it is that you must be careful not to be too rough.

Your bait being dead, then insert the baiting needle, point foremost, at the anus, and bring it out at the open mouth. Before pulling it through, hook the loop of the gut on to the eye of the baiting needle. Then pull the baiting needle out at the mouth, drawing the gut after it through the fish till the hook comes home to the anus. In doing this, humour the baiting needle by giving it a turn, as a doctor does an instrument, so as to tear the vent hole as little as possible in getting the loop through it. I prefer a single uneyed treble hook, also called a tapered treble hook, of the sort described in the chapter on tackle,



BAITING NEEDLES.

and *about* the size shown on page 68. I say *about*, not exactly, because this illustration has had to be slightly diminished to suit the page. The correct size is No. 5 in the scale of treble hooks given a few pages on. I used to use No. 7, but I find the hook is so well concealed in this mode of baiting that one can afford to use a larger hook, and the larger hook gives of course greater chances of hooking, and a larger hook hold. Indeed, you may use No. 3 if you like, so well is the hook concealed, but to my thinking No. 5 suffices. When the hook is home to the vent, embed one of the three thoroughly in the fish, so that the two remaining hooks of the treble shall be lying close against the fish. In this position they are scarcely perceptible, whereas if one hook is carelessly only half embedded, the other two stick out and show unnecessarily. It is always worth while to bait very carefully and neatly, because all your subsequent efforts centre on the nicety of your baiting. Then you must have a sinker, also described in the chapter on tackle. Pass the baiting needle through the loop or ring attached to the sinker, and run the sinker down the line, and push it, thin point foremost, down the fish's throat, so that it is entirely concealed within the mouth of the bait. Then remove your baiting needle, and hold the line so as to come out of the bait's mouth exactly in the centre; and so as to keep it in the centre, and make the bait spin true, as well as keep the lead from coming out, sew the bait's mouth up as follows with a common needle and thread. Close the bait's mouth, pass the threaded needle through both lips so as to bring it out at one of the nostrils in the upper lip, insert it at the other nostril, and pass it through both lips again, keeping the line between these two stitches. The two ends of the thread will then be over at the chin of the bait; draw them together just gently enough to avoid tearing the bait, and yet tightly enough to keep the mouth well closed. Tie a sailor's knot, *not* "a granny" or grandmother's knot, and cut off

the ends. Do not use white thread for this, because it will show, but stout black thread double, or any dark coloured knitting silk double, say brown for preference. Your bait is then ready for use.

This may seem a long, troublesome, and fidgety process, but it should not occupy as long in the doing as it does in the describing, and if you have an attendant with you, he can always be preparing a bait for you while you are fishing, and whenever your bait is spoilt by a fish, or by long or rough usage, you can at once change it for a fresh one, by using the double loop recommended in the chapter on tackle, in the manner there suggested. This change can be effected in about ten seconds, or may be less, and the soiled bait left for the attendant to remove from the hook and replace by another fresh one.

If you have not got a treble hook, a single bare salmon hook can be used very well for this purpose, the hook being pulled into the vent after the line, shank foremost, till the fish is well down on to the bend of the hook, and there is really little more than the point showing. A No. 4/0, 5/0, or 6/0 Limerick hook will do very well for this purpose.

The only objection I have heard made to this mode of baiting is that the bait is apt to bend too much by dragging down on to the hook, because there is nothing in the line to give it rigidity and keep it straight. But I have not found this myself if care is taken not to embed the hook further away from the head than the vent hole, and if it be a fault it is one that is easily remedied by inserting the baiting needle not at the anus, but a trifle nearer the head. In such case insert it not in the stomach, which is liable to tear away, but in firm flesh half-way up the side, and take care to pass the baiting needle, not simply under the skin, but through a good piece of flesh so as to give a hold, and also embed one of the hooks thoroughly well into the side till the other two lie quite flat against it. Pass the baiting needle out of the mouth and proceed as before. This for objectors, but I prefer the use of the vent hole as it tears less, and is in my opinion not at all too far back; indeed I sometimes insert the one embedded hook a little further aft than the vent, because the vent is differently placed in different fish, and some require a little more bend to make them spin. The opposition of the water makes the bait hang back on the hook, so as to draw up the tail, and create bend enough to make it spin.

But there is one objection to this mode of baiting which I will freely admit. If your bait is not the *Ophiocephalus gachua*, but of a

less tough sort, or if from not being quite fresh it is inclined to get



rotten, which it will very quickly do in India, then, as the bait softens from being sodden by use in the water, the sinker in the stomach slips down the line, and by its weight breaks a way for itself out of the stomach or vent, and trailing visibly outside your bait spoils its appearance utterly. For such spoiling, too, there is no remedy but a fresh bait, and of these you may not have too many. At any rate you grudge the time lost in changing, especially if the fresh bait is not with you, but with your attendant, who, for better concealment, is not quite at your side. In such case try the sinker used in the "Dee minnow tackle," only of a larger size, say $1\frac{1}{2}$ inches long, as in the margin.

There should be no fear of these sinkers fraying the line if it is wire, and I see no reason why you should not use wire or wire gimp on this tackle, because there is no need to double or bend it in baiting, and it is doubling that tries wire. I have always used treble gut or single salmon gut myself, but wire had not then been brought to such perfection. Please see the single vent hook in the chapter on tackle.

This bait, though originally the product of my own untutored intellect, is, I now see, much the same in principle as the "Dee minnow

tackle" with the exception that I discard the additional flying hook, an extra hook that is certainly both not wanted and highly objectionable for Mahseer, and I have my one hook bigger and stouter. Also the sinker is enlarged.

I will confess I have not used these sinkers, except for trout, but I have always hankered after them the size for Mahseer, and wire to use



DEE MINNOW
TACKLE (baited).



DEE
MINNOW
TACKLE
(unbaited).



them on; and now you can get both, and I should think they ought to be superior to the inside sinker that I have always used (p. 66).

But for those who are too idle for baiting after this manner, and have not an attendant trained to do it for them, "Geen's Richmond spinner" and "The Coxon spinner," specially mounted for Mahseer, seem to me perfect tackle for the purpose. Of the two I prefer the former.

Geen's Richmond spinner I have never tried on Mahseer, because I had it not in India, but I have tested it with trout. It is made of two sizes, for trout and for salmon, the former two inches, the latter three inches long in the blade, and the salmon size should suit a

Mahseer. No sinker is needed because the plate or blade is made thick enough to act as sinker, and to be at the same time strong and stiff enough to give an unyielding curve, and it is a curve that has been

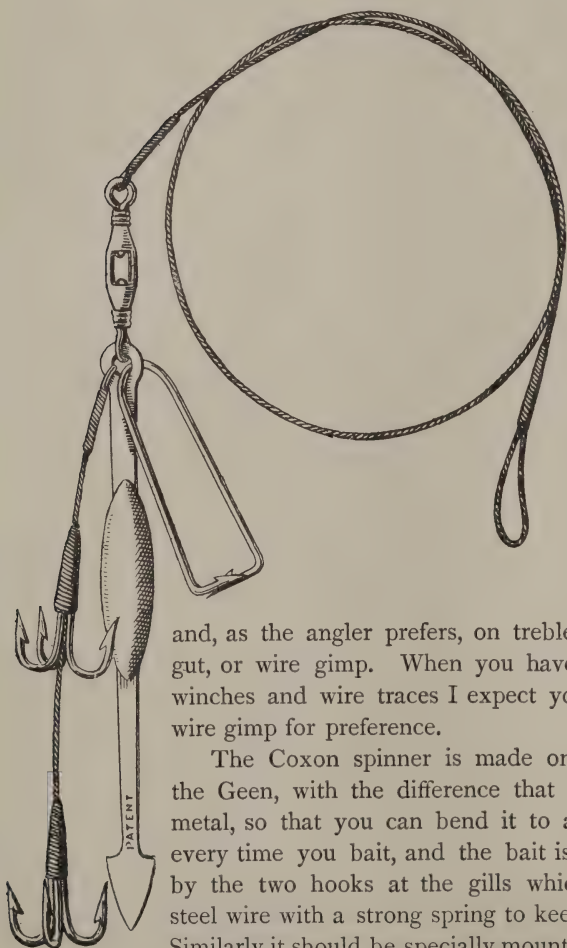
admirably hit off for spinning the bait. And being spun by the curve it is free from obtruding screws at the head, so objectionable in the case of any fish that takes its bait head foremost. (See Index for, Mahseer take the bait head foremost.) The two projecting points keep the bait from slipping. It may be mounted with Mahseer hooks

and, as the angler prefers, on treble gut, single salmon gut, or wire gimp. When you have read about brake winches and wire traces I expect you will say No. 2/0 wire gimp for preference.

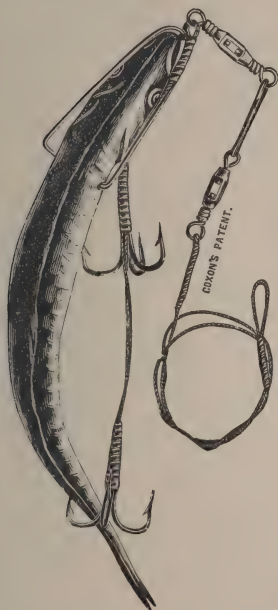
The Coxon spinner is made on the same lines as the Geen, with the difference that the plate is of soft metal, so that you can bend it to any curve you like every time you bait, and the bait is kept from slipping by the two hooks at the gills which are mounted on steel wire with a strong spring to keep the hooks home. Similarly it should be specially mounted, as particularized

in the chapter on tackle.

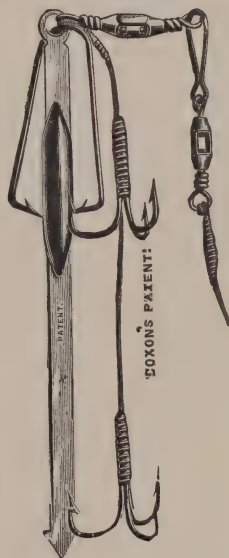
I give an illustration of a Geen's Richmond spinner and of a Coxon spinner, specially mounted, with less swivel showing, with wire gimp, and with Mahseer hooks, as I recommended that they should be mounted.



and each actual size. I give also Allcock's illustration of the way the Coxon spinner is mounted for the English angler, that you may see what a plethora of swivels I have discarded as they would be unsuitable for India, being too obvious in our bright waters. Your tackle-maker can easily adapt the mounting to Mahseer. Swivel No. 5, hook No. 7 or 8, 8 for preference, wire gimp 2/o. The English illustration is to emphasize the difference, in order that your tackle-maker may not



COXON SPINNER (baited).

COXON SPINNER
(unbaited).

consider the English mounting all right, and send it you without thinking.

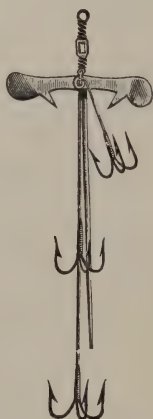
The Archer spinner has been highly commended to me, but I do not like the looks of those obtruding screws at the head. I was told that when baited they obtrude very little. But in this matter it seems to me that you must be on the horns of a dilemma, that if they do not obtrude enough to be in the way of a fish taking his bait head foremost, they will not obtrude enough to spin the bait, and *vice versa*. Still

anglers may not all have my prejudices, and may like to judge for themselves, so the plate is given.

The Chapman spinner is a favourite with many; so much so that at Loch Lomond I could get none other. But even so I would none of them because of those objectionable screws at the head.



ARCHER
SPINNER
(baited).



ARCHER SPINNER
(unbaited).



CHAPMAN
SPINNER
(baited).



CHAPMAN
SPINNER
(unbaited).

Most fishermen are familiar with the phantom silk spinning minnow. They have the advantage of being light for throwing, but to my thinking they are too light for spinning deep enough, are always coming to the surface, and they have the very objectionable feature of screws obtruding at the head. I never would use anything for Mahseer that was thus handicapped.

A multitude of hooks, even if they were not repellent, as they obviously must be in bright water, are not at all necessary in India. They are made in England for fishes whose mouths are so full of teeth and scarcely-covered bone, that the surface presented to the hook is so hard that the chances are sadly against a hook penetrating, and getting a hold, and therefore the hooks are multiplied with a view to increasing the chances of hooking a fish. But the Mahseer's mouth and lips are

soft, tough, and leathery, presenting a perfect hookhold all over, so that one hook is enough, and two is certainly ample. Moreover, the Mahseer closes his leathery mouth very tight on his fish as I have shown, and the chances are much against his escaping being hooked.

On all grounds, therefore, I am for as few hooks and as fine tackle as possible with the Mahseer. With some other fish with which we shall have to do hereafter the same necessity may not exist.

Presuming, then, that I have contrived to seduce my reader into a preference for a dead fish on fine tackle, as being more natural and consequently better calculated to stand closer fish-eyed scrutiny in clear water than any artificial bait, the next question that arises is whether any particular sort of small fish is more killing than another. This I have endeavoured to ascertain by identifying the fish found in the several Mahseer killed; but their digestion is so marvellously rapid, that it is very seldom indeed that the small fish there found are recognisable. Not only have their scales and fins almost always disappeared, but their very shape has been lost. Though I have once or twice recognised a few, it does not thence follow that there may not have been several other sorts amongst the ones I could not make out. Though I have seen the Mahseer taking dace-like fish freely in the natural state, and found in them *Discognathus lamta* (Chapter III.), it is no sequence that they do not as freely take other fish, which I could not see them take, simply because they are small fish that inhabit the bottoms of rivers, and are consequently not within sight. I cannot say, therefore, if the Mahseer have a preference for any particular sort of small fish, and as they seem to take them all alike, whichever is handiest, the question rather is which the fisherman prefers. The several fish that are dace-like show farthest from their white shining scales, but that is not much of a point where the water is clear as crystal, and they are a tender bait, and soon tear on a hook and look dishevelled. The young of the *Chela argentea* are a favourite bait with some, because they are so very bright and silvery. But they are most frail. Any of these sorts of baits can be readily caught by a throw or two of the casting net in the shallowing edges and tails of the pools of the very river in which you are fishing. Your boatman is probably a fisherman by caste, and has only to be warned to bring his casting net with him. The *Ophiocephalus gachua*, however, a somewhat loach-like fish in general appearance, and called in Canarese *morant*, in Tamil *koravai*,

and in Hindustani *dok*, is much tougher, and consequently keeps its good looks much longer on a hook. Its lips, which is a great point, are stronger, and its mouth being wider, it readily takes in a larger sinker. It may be easily recognised by the similarity of its general appearance to that of the marral, *Ophiocephalus striatus*, figured in Plate XIV., for it is one of the same family and genus, though small. It has small scales, looking to the ordinary observer like a scaleless skin. It is a bottom-feeder, always among the stones, and the young are to be found in any small pool adjoining rice-fields, whence they can be readily taken by bailing out, or by small boys with a worm, or by damming up any small stream, and turning it on to a dry reaped rice-field, when they will follow the stream out on to the rice-field and are easily caught. This is the simplest way of catching a number in a short time. Your grooms or other camp followers can do it for you. These fish keep alive in a bait-can longer than any fish I know; but they are great hands at jumping out if it is not closed. Mr. Dunsford, to whom I had introduced them, graphically writes of them as "next door to immortal, if kept in a pot of water." A wet cloth alone will keep them alive for an hour or so.

Though I say loach-like, the reader will please understand that I mean like in general semblance only to the eye of the casual observer, and not in characteristics to the closer examiner; for it is really of the same genus as the marral, though a span is its utmost length. My desire is to make myself intelligible to the general reader, the more critical one must therefore please not quarrel with me for, or conclude ignorance from, laxity of expression like the above, any more than he would conceive a person ignorant of the earth's rotation for saying the sun set.

As to what is the best size for a bait to be, it must, I think, remain a moot point, dependent very much on the fancy of the fisherman. Some have an idea that the larger the bait you use, the larger will be the fish you catch. But my humble opinion is that we do not always take as big a bite of cake as ever our mouths will hold, and I am quite sure that very fine pike and 30 lb. salmon have been killed with a very minnow for bait. I have myself seen a pike of 3 feet taken on a roach not as many inches in length. The use of a large bait may perhaps serve the purpose of choking off the smaller fish, and allowing the bigger ones to have it all to themselves, but I very much doubt it, for it is

astonishing how huge a bait, in comparison with its own size, a small fish will sometimes go at if he happens to be more than ordinarily peckish. On a spoon of $2\frac{3}{4}$ inches in length I have pulled out a greedy little Mahseer of only a quarter of a pound in weight, whereas I have also taken a 12-pounder on a spoon of only an inch and a quarter in length. I measure the spoon in the spoon part only, without calculating the ring and hook fore and aft. Pike, again, have been known to take other pike of more than half their own size, and in one case every bit as big as itself, though in the last instance it might have been more intent on fighting than digesting; anyhow it won't do it again, for it died of suffocation. Of course if you go to such a length, as was recently done with success, of baiting with a 7-lb. jack for an individual pike of 50 lb., known to reside in a certain locality, it would trouble any small pike to take such a bait, and you might fairly calculate on strong probabilities of your taking the particular pike you wanted, or none at all. But you do not always happen to have a personal acquaintance so intimate as to be able to provide the special dish which your friend alone shall particularly affect. Furthermore, I hold that as a preventive measure against indifferent fish a large bait is not a necessary precaution. My belief is that if there is a big fish on the feed within reach of your bait, though small, and you work it naturally enough for him to desire to take it, he will have it, and woe betide the cheeky little fish that presumes to come between him and his dinner, for "a hungry man is an angry man." Again and again have I seen a large fish sail majestically up to his bait, and take it leisurely in, as if thoroughly conscious that none of the smaller fish around dare step in before him. There is a calm resolute look in his eye, and an angry little twitch of his tail, that the smaller fry understand the meaning of right well. It means business, and they make way for his majesty most apparently. But if there is any doubt in his mind, and he shows no sign, they can read that too, and in they go at the bait, as they are probably hungrier and less wary than he is. And that is how it is that a good fisherman generally kills finer fish in the long run than an indifferent fisherman, even though both fish with precisely the same bait. The finest fish are the oldest, the most experienced, most wary, and in a position to be the most fastidious. The deception that satisfies them must consequently be the most perfect; but if it be quite satisfactory, then they are thoroughly competent to look out for themselves, and well able to prevent the

smaller fry from rudely rushing in and carrying off their intended dinner. There is a very decided, dignified, awe-striking, keep-your-distance expression in the countenance and general bearing of a large fish about to feed, and in a handsomely attired trout an unmistakable *odi profanum vulgus* look, quite enough to make any small fry shrink into their shoes. Though I have not yet arrived at the point of recognising the varying lines in the face of a large Mahseer, there is no doubt in my mind but that the small fish are thoroughly conversant with them, for I see a knowledge of a certain something there so clearly reflected in their behaviour, that I cannot question it, and myself am often able to gather something from his general demeanour, his lordly lineaments, even before he leaves his station for the bait. His daily satellites the small fish must, however, have much more closely studied his physiognomy.

Still the rule cannot be considered by any means absolute. Small Mahseer must rush in and take their risks of punishment sometimes, just as half-grown chickens do in a yard, and get a good peck now and again for their pains. Nothing venture nothing have. Your small bait may also be taken by a small Mahseer before it comes within the ken of the large fish which is in another part of the pool or run, a part you have not yet spun over. An argument this for spinning through the best bits first; a reason again why the best fisherman catches the best fish. He divines intuitively where the best fish ought to be, and he fishes accordingly. Furthermore, the best fish having taken up their position in the best localities command only a limited radius therefrom. If the smaller Mahseer never got a chance of a small fish they would be badly off.

There is no doubt, however, in my mind but that the large fish is able to make the smaller ones understand that he means to have such and such bait in sight, and that they are not to think of anticipating him. It is quite intelligible that he should do it almost without a sign, just as you would intimate to the bearer of your second gun that you are prepared for the approaching deer or tiger, and that he is to keep motionless. He does not need to be told the last half of the idea, it is a natural sequence; it would be a work of supererogation to tell him he must not fire before you; he never dreamt of such a thing, for he has been too well drilled. The position of the small fish is a parallel one. They only need to see in the big fish's eye a look of preparedness

to take the bait, and they understand the rest. He will take it at the time he considers best for surprising what he conceives to be a live fish, just as you will take your shot when you get a fair view of the shoulder ; though there be a little delay it should be quite as comprehensible to the small fish as it is to the gun-bearer that the master is only waiting his opportunity, for there is a look in his eye that means business, and that is enough.

Do you doubt that fish have ideas, and are able to communicate them? It might be proved abundantly that fish can think for themselves : and that they should be unable to communicate their ideas to each other would be contrary to the analogy of all nature. Let it suffice to ask a few questions which can elicit no reply but that fish can and do think intelligently. Small fish see a large one going to spawn ; they follow her in a crowd, and wait patiently till she has worked out a hollow in the gravel, and commenced to spawn therein, and then they feed busily on the stray ova that are washed down to them. Have they not recognised in the appearance of the female, or in the companionship of the male, an indication that the act of spawning is about to take place ; else why have they assiduously followed her? Have they not been confirmed in the idea by seeing her working out a hollow in the gravel, else why have they continued to wait upon her? May be they have done the same before and got a good dinner by it. If so they have memory. May be the majority of them crowd after her simply because they see others do so, and conclude that there is probably something to be gained thereby. If so it is drawing certain conclusions from certain premises, which is the process of reasoning. Anyhow, depend upon it they are no fools, and the angler who hopes to be successful must commence by disabusing his mind of the idea that he has a fool to deal with. Every man that lives from hand to mouth has of necessity to be wide-awake to his immediate surroundings, ever on the alert to notice facts, quick to draw conclusions, and prompt to act upon them. It is the case with civilized man, it is still more markedly so with the savage, while with the animal kingdom it is presumedly the sole field of thought. Still it is the process of thought, a process sometimes followed out through a surprisingly long chain, and fish are no exceptions to the general rule, even though their intelligence may not be so educated as that of the domesticated animals that have been brought into closer communion with the superior intellect of man ; and

may not be so much noticed and appreciated by man, because exhibited under the water, an element with which he is necessarily less conversant than with earth and air.

Fish have a brain, why then should they not use it, though it is not as heavy as Cuvier's or Byron's or Thackeray's? It has even been suggested that there is a comparison in the weight of brain and intelligence of different fish.*

Why is it you use a transparent, almost invisible, material like silkworm-gut to attach to your hook? Why do not you use whipcord or string? It would be both stronger and cheaper. Why! because the fish is observant, would notice it, would conclude, would *think*, aye *think*, there was something wrong, and would not be such a fool as to take your bait.

Not to multiply examples too much, how is it that the trout in a much-fished river are much shyer than in less-frequented waters, and require finer tackle and better fishermen to catch them? They are not really shyer of anything but man, they are not less greedy of food than they were, but if anything the reverse, because of their fewer opportunities of feeding; they are only more discriminating, more educated, more intelligent. They have learnt to distinguish between an artificial fly and a natural one; they recognise the figure and the shadow of a fishing man, and dash away; while they feed securely on in presence of the ox grazing on the bank. They may not be a "cooking animal" like you and me, but they are thinking animals all the same, and no fools either, and if we wish to do anything with them we should not take them for anything but intelligent beings. If you do, and only then, shall we be inclined to think there is some sense after all in Johnson's well-known definition of the angler, "a stick and a string with a worm at one end and a fool at the other," albeit the learned man spake it in ignorance.

I repeat, again, the fish at least is no fool. Eradicate that idea. Take a new creed. Say rather he is a thinking animal. I might go on multiplying examples to prove it, but I should weary you. Pray do not breathe a word about reason and instinct, or I shall have to begin again and write a whole chapter on that well-worn though interesting subject.

* "The proportionate weight of brain in a Pike as compared with its body, is as 1 to 1300; in a Shark as 1 to 2500; in a Tunny, a remarkably stupid fish, as 1 to 3700."—"The Angler-Naturalist," H. Cholmondely Pennell.

Do just please concede for peace sake that my fish is a reasoning being, and I will go on to the next subject, his talkativeness.

I have stated my belief that fish are able to communicate their ideas to each other, and I hold this opinion on two grounds : the first, that it would be contrary to the analogy of all nature if they could not do so ; and the second, that I think I can recognise indications of their exercising this power.

My belief, then, is that all the higher animal life that we know anything of has the power of communicating ideas.

Has any one the hardihood to assert that monkeys cannot converse ? Watch them moving quietly along in a large crowd. One of them gives a little sound of satisfaction, and there are soon plenty with him to share the fruit he has found. That mamma monkey calls to its young one that it is time to be off sharp as there is a man coming, or that it should not dawdle so as there is fruit in front, and it very evidently understands and repairs to its mother hurriedly or leisurely according to the nature of the maternal command. This is very marked. And then how mamma croons over it ! Is it all meaningless ? I will be bound there is not so much nonsense in it as in half the stuff talked to babies by nurses and mothers, about blessing their little tootsi-wootsies and so forth. Let one of the herd see a crocodile where they are about to drink, or a panther, or anything that alarms them, and only listen to the jabbering caught up and carried on by all. Do you say it is all gibberish ? It is intelligible enough to them, and all with one consent take precautions accordingly. They do not run wildly hither and thither, as if overcome by an uncertain fear, but they have a clear idea of what is the matter, and what they ought to do in the circumstances. The state of affairs has been intelligently communicated.

Try again. Strike gently, so as not to cow, or threaten to strike, that captive monkey, and see if he does not face round, and give you a bit of his mind at once. He commences talking with great volubility, and though you cannot understand him he means a great deal. It is very evident from his demeanour he does, his face and bearing being full of rapid expression.

I have often thought it a very good thing we do not know all that quarrelsome dogs say to each other, for there must be some frightfully bad language used sometimes. The very style of the growling of some of them makes one shudder, it sounds so full of coarse oaths.

But they can talk civil talk to each other also. I had a fine heavy dog, half fox-hound, half Cuban blood-hound, which had an excellent nose. He came on the scent of antelope, and followed it up till it was warm, and he could make it out. Knowing from sad experience that he was much too portly to catch an antelope himself, Jim abruptly left the scent, and went in search of Juno, the fleetest of the kangaroo hounds, then hunting for herself about a quarter-of-a-mile off. Back the two scampered together in a great hurry, he picked up the old scent, and followed it up, till he fairly laid her in view, and then away she went, he keeping her in sight as best he could by cutting corners. To bring her away from her own chances of sport, and that so promptly, and to get her to accompany him back in such a hurry, he must have conveyed to her mind a very clear idea of some definite sport immediately in hand. No human being interfered. They did it all themselves. But dogs can also make themselves intelligible to men, for we have lived so much with them that we have in some measure learned their language. Though we do not know all they say about it, man can well understand from the manner of a dog's giving tongue, when it thinks it has hit upon a scent, and when it is sure it has a warm one, and when it is in view. A dog's whimper, its giving tongue, baying, barking, growling, moaning, howling, yelping, are all distinct sounds, with a distinct significance, which man has learnt to understand. He has learnt a little also of the many different intonations in those sounds, of the differing force of expression in them, and of the looks of face, and motions of tail, and sometimes of paw and tongue and raised bristle with which they are accompanied. If he knew more he would understand also how dogs speak to each other in apparent silence by signs, or expressions of countenance, or in audible words, that man cannot follow, or cannot hear.

How does a bison tell its calf that it must run in front of the herd and lead the pace, and having told it this, how does it make it understand the line of country to be taken? All this it does in apparent silence, and you may observe the little one looking back when in doubt for instructions.

How does an antelope, on the approach of danger, tell its little one, not yet old enough to run, to lie down instantly, and not to stir for its life till called?

How does a sheep call its particular lamb out of a hundred or more,

a great distance away, and that particular lamb comes at once, and no others offer to move? When it wants to reassure its lamb, and to tell it not to come, it employs a very different sound, and the lamb shows by its conduct that it comprehends.

Tigers make very different noises when searching for their prey, when appalling it, when rejoicing over it, when calling each other, when angered. Man can distinguish the difference therein. But there is doubtless much more means of intercommunion which man cannot follow. For instance, tigers and wolves and wild dogs not unfrequently hunt in concert, some lying in ambush, while others beat towards them, and they must have conversed together to preconcert the plan of the campaign.

Birds also converse. See how constantly mynas are chattering away to each other, especially the hill myna (*Eulates religiosa*), and swallows before migrating seem to be busily discussing some subject or other. I presume it is their journey. Rooks hold great assemblages, and make much noise thereat, and the end of it all is rational behaviour, for they are admittedly very learned about various things, and are evidently not without rights of property in last year's nests. They have also decisions executed by executioners in the cases of intruders or offending individuals. Indeed, it is difficult to conceive how any creatures who habitually live in collected numbers could possibly order their conduct so as to live harmoniously, unless they had the power of freely interchanging their ideas.

How could the sociable grosbeak, or sociable weaver bird of South Africa (*Philetærus socius*) conjointly construct for the whole colony one large umbrella-shaped collection of nests connected like the houses in a town; how could they arrange all the necessary details without communicating ideas and arriving at a joint understanding? Sociable animals must necessarily converse.

I should not be surprised to find it some day proved that not only do birds have language, but also separate languages for different species, as we have for different nations, and variations of voice for each individual and sex. Without such variations of voice it would be difficult to understand how, in the pairing season, for instance, each individual sparrow can not only call a sparrow and a mate, but its own mate, as it evidently does without mistake, in the midst, too, of a clamour of other voices. That the bird's ear is formed for the accurate distinction of voices is traceable in the grey parrot, the raven, the

jackdaw, the myna, and others, which not only repeat words, but catch so exactly the intonation of the human speaker that they are sometimes indistinguishable.

That there are different voices for different sexes we can ourselves recognize in the varying voices of domestic poultry, and man can so copy the voice, and parrot-wise probably the words also, of a she bear that a male bear shall answer it from far away in the forest, and keep on answering and drawing near as called. I have seen it done on the Animalais, till we had to desist because we were unarmed. The gentleman who did it said that there were junglemen who could thus call a male bear within easy shot. Many of us have heard natives so copy jackals crying over their prey that others shall answer and come even within striking distance of a club. This subject might be enlarged on, but I only wish to lead up to my fish.

Take just one example from insects, in addition to those from beasts and birds. Watch the ants moving in long columns along some conjointly cleared road, in some particular direction, evidently with some common object. How did they agree about and communicate to each other that common plan? Put your finger, or any other obstacle, in the line and stop them. There is immediately excitement amongst them all, and parties swarm up to remove the obstacle with a readiness that seems to say the state of affairs has been rapidly communicated, and a course of conduct resolved upon and ordered by authority. See two ants meet and cross feelers rapidly, and then go on their several ways. What have they been doing? Fooling? All their history is against the supposition. They would seem to have been conversing. Watch them dragging a cockroach up the side of a wall. It is about fifty times the size and weight of any one of them, but there they are on all sides, some upholding, some dragging, some pushing, others indicating the way, and others coming as reliefs, but all evidently understanding each other, and consequently working with a unanimity of purpose which alone could make it possible to accomplish their end as they do. They clear fields, sow seeds, cultivate them, and in due course cut, carry, and store crops in granaries built for the purpose. They forage for, capture, stall, feed, and milk cows. They maintain armies and take prisoners. They have a well ordered society. It is impossible that they could do all this without being able to communicate freely with each other.

Though arguments to this end might be multiplied at pleasure, and are to be found in convincing force in the writings of Sir John Lubbock, in "Mind in the Lower Animals" by W. Lauder Lindsay, M.D., and such like works devoted to the subject, enough for the purpose of this work has probably been said, in passing, to satisfy the reader generally that beasts, birds, and insects can and do converse as freely as human beings, and consequently that there is a presumption in favour of the same faculty being possessed by fish. There being no apparent grounds why fish alone should be an exception to the general rule, and all analogy being favourable to their being able to communicate ideas, we may examine with less incredulity, without any presumption to the contrary, and consequently with more fairness, whether or not there are any indications of their exercising the power which they may well possess.

I instance first the example above given of a large fish deterring smaller ones from anticipating him in the matter of food; and I beg a re-perusal of those remarks with less incredulity and more seriousness than was, perhaps, given to them before. I have seen the same with chub also, as well as with Mahseer. I have seen six or eight chub attracted by my floating cockchafer, and apparently meditating taking it, when they hung back, divided, and made way for a comparatively much larger chub of $2\frac{3}{4}$ lbs., who sailed majestically up to the bait, and took it leisurely down, with a seeming confidence that the others would not presume to anticipate him. He must have made them understand, even though he came from behind them, that he desired to have that cockchafer himself, and he must have felt confident that he had expressed himself explicitly, and would be attended to. The same conclusion seems to be pointed at by the frequently deliberate way in which a large trout sucks down his fly, in contradistinction to the hurried dart of the smaller trout.

Furthermore, how is it that when a river is much whipped, the fish all get very shy? I do not suppose they have all been pricked by the hook and got away, so as to have gained wisdom each by personal experience. Surely there are too many thousands in the river for that, and too many more thousands fresh born every year. Those that have been hook-pricked, not an inconsiderable number certainly, are not improbably able to communicate the fact to the others, and not till a large proportion of the community have thus suffered, is much weight

likely to be attached to their warnings, in opposition to the cravings of nature.

Certainly there is much to be urged in the contrary direction also, as, for instance, the fact that fish will keep on biting in one particular spot, though they see their neighbours being pulled out before their very eyes. Still men do things quite as foolish. They engage in trades dangerous to life, and continue to follow them, though they see their fellow workmen falling off around them from diseases which have been calculated to result with certainty after a stated number of years. If the pressure of circumstances, *res angusta domi*, be too strong for the wisdom of the human being, why should not the cravings of nature be allowed to have outweighed the caution of the fish, rather than be deduced as conclusive evidence that he knows not the risk he is running? It is at least an open question, and analogy and observation incline me to the belief that fish can communicate ideas to each other.

I may not be able to deduce as many, or as striking examples, as in the case of birds or beasts, but that, as I have already shown, is the natural consequence of fish inhabiting an element in which we are necessarily less at home than in our own.

It is not necessary to my argument that the communication should take place by means of oral sounds as with human beings, though fish have the sense of hearing. Dr. W. Lauder Lindsay says: "Various fish kept in pleasure ponds in gentlemen's demesnes also know their own master's voice or call, and sometimes even footfall or footstep, from those of all other individuals. They attend to the one and are indifferent to the other." And Sir J. Emerson Tennent, in his very interesting "Natural History of Ceylon," has remarked, not without force, that "organs of hearing have been clearly ascertained to exist not only in fishes, but in mollusca. In the oyster the presence of an acoustic apparatus of the simplest possible construction has been established by the discoveries of Siebold." Sound, we are told, is produced by vibrations of matter, as light is perceptible through vibrations of ether. When the air is quivering with vibrations of less than 16,000 or more than 32,000 beats a second, the sound is inaudible to the human ear. May there not be such sounds in animal speech, audible to them, as we notice that there are scents and sights beyond our powers? Still it is not necessary to my argument that the communication should be made even by sounds inaudible to the human

ear. It is equally comprehensible that, as in the case of ants and animals, they may be made by distinct means, means of which we have no knowledge.

It has been remarked above that it is difficult to conceive how any creatures who habitually live in collected numbers could possibly order their conduct so as to live harmoniously, unless they had the power of freely interchanging their ideas. May not such a remark have equal pertinence to fish as to birds? Is it not equally applicable to such fish as swim in shoals? Porpoises, for instance, act very obviously all in concert, and the change, from one unity of purpose to another unity of purpose, is made with such rapidity, and such a complete embracing of every individual of the school, that it is easier to believe that the new idea was in some way communicated, than to believe that it was not. Gregarious fish, such as the herring and the pilchard, could scarcely conduct their migrations in unison if they had not all a common intent arrived at by communication. The simultaneous manner in which a vast shoal of fish will descend from the surface of the sea to deeper water points also in the same direction. It is well known to anglers that you may catch dace after dace out of a shoal till you have hooked and lost one in the landing, and that then you will ordinarily get no more dace out of that shoal. How is this to be accounted for except on the supposition that they have powers of communication analogous to those of gregarious animals on land? Exceptional days there are certainly, that come once or twice in a twelvemonth, when nothing will dissuade the dace from taking as fast as you can throw in your fly. But those exceptions militate not against the general rule, and the conclusion I have drawn; they only indicate, as in an instance above, that on those exceptional days appetite overmasters prudence, despite communicated cautions. The male stickleback is known to build a nest, and then to find and bring a female partner to it. Why should it not be believed that the male stickleback made a communication that induced the female to accompany him, just as much as such communications are believed to be made by dogs and other animals which live on the land? The fact of living wholly on the land, or much in the air, or wholly in the water, does not seem to affect the question. It affects only our facilities for observation by limiting them sadly. But, as far as observations go, they seem to indicate that there is no difference in this respect between fish and

other animals. They all seem to need, to have, and to use, the power of conversing, whether by articulate sounds, or by what Dr. W. Lauder Lindsay calls "non-vocal language."

One more thought occurs to me. I will not put it among the indications of language, because I am not sure that it fairly is one, though it may be. Many anglers will have noticed that in playing one fish it is not infrequently followed about through all its struggles, by its pair fish, in the case of the marra, or by a crowd of fishes as with the Mahseer. Why is this? Is it merely that the others are curious? If so, what is it that they are curious about? Is it about the strange demeanour of the played fish? They follow it very closely. Or can it be that the hooked fish has expressed astonishment or fear, or has asked for aid? Do they want to ask him what is the matter?

This brings me to another sense, the sense of smell in fishes, in connection with the immediate subject of this chapter.

It was out of the question of the size of the bait to be used, that this discussion of the intelligence and communicative power of fish grew; and the next question is whether it is advisable to preserve bait in any way, against the eventuality of not being able to procure it fresh when wanted. It is obvious it will not do to let it take care of itself, for it will very soon get so rotten as not to stay on a hook five minutes, besides being offensive; consequently bait is commonly salted in England and thus kept on sale. Some fishermen have objected to the salt on the ground of its injuring the hook, and prefer fish preserved in spirits. I, however, have an objection to bait preserved in spirits, and I base it on the strong sense of smell known to exist in fishes, in some more than in others; a sense considered to be very perfect, and second only in power to the organ of sight in fishes generally, while in some, notably *Wallago attu*, the sense of smell must rank before sight. A bait preserved in spirits of wine has a very strong smell even after it has been on the hook, and used in the water for half-an-hour; and I cannot think that a fish will be unmindful of it, and recklessly take such a strange smelling thing into its mouth; I have often thought, in using such a bait, that I have lost many a run I should otherwise have got. I have seen fish follow it and turn away. Of course I cannot say positively that it was the smell that turned them away from it, for they will do just the same to any bait they mistrust; still I was fishing very carefully, the bait was neat, and I thought it was the smell. Salt-fish I

have used with effect, and if you must use preserved fish, I would prefer that method of preserving them. At best they are very inferior in appearance and toughness to a fresh fish taken alive out of the bait-can, and baited immediately on being killed.

Moral.—Don't put anything smelling of a public-house before a total abstainer, a fish, and least of all before a *Wallago attu*, of which hereafter.

But the kindly reader who has been good enough to travel thus far with me must be right weary of this chapter, and anxiously looking for an end at which he can put down the book and rest. Further remarks on spinning will therefore be reserved for another chapter.

CHAPTER VI.

HOW, WHEN, AND WHERE TO FISH FOR MAHSEER.

“Give me mine angle; we’ll to the river there.
* * * * * I will betray
Tawny finned fish; my bended hooks shall pierce
Their slimy jaws.”—SHAKESPEARE.

BEING provided with the right lure, be it fly or spinning bait, there is still the question how to use it. Suppose we consider the spinning bait first, in continuation of our last chapter. How should we spin, with the stream, against the stream, or across the stream? Those who advocate spinning with the stream, or drawing your bait in the same direction as the river is flowing, do so on the same ground as fly fishermen, namely, that all fish lie habitually with their heads up stream, and that consequently you bring your bait down to them, into their mouths as they say, instead of pulling it away from them up stream. But the cases are by no means parallel. What is natural in one case is unnatural in the other, and the secret of good fishing is so closely to imitate nature, that the fish shall not be able to distinguish your bait from its ordinary food. Though the fly lights, or mounting from the bottom sits, on the water’s surface, and is carried unresistingly down the stream, the behaviour of the small fish which you have to imitate is very different. It swims up stream just as much as down stream; indeed, if it did not it would find itself down at the sea in a single season. It swims across also, as much as up and down. Certainly it does sometimes allow itself to drop down stream tail foremost, and that action as well as others may be imitated occasionally, but it is not a common action, and only adopted when the fish has but a short distance to go, or in a rapid. When a fish, whether large or small, wants to go down stream it almost invariably turns round, and swims down head foremost, for the obvious reason that

it can then see before it, and avoid rock, snags, falls, etc., though when the rapid is strong it requires to descend tail foremost, so as to regulate its pace by partial swimming. When swimming down head foremost, what with the force of the current and its own swimming, it ordinarily moves more rapidly than when sauntering up stream. Besides which, it never goes down stream, except in rapid pursuit of some food that has been carried past it, or for the purpose of returning to, and again taking up, the post of observation it has lately left. Whereas, when coming up stream, fish often saunter upwards, watching for what the stream shall carry down on either side of them, lazily stemming the current, and frequently remaining stationary. At such times, when moving most leisurely, and when most intent on their own food, they must offer much better opportunities for being surprised by big fish than when moving more rapidly; I should conclude, therefore, that it is the position in which the larger predacious fish are most on the look-out to take them at advantage. It is, therefore, a movement which I should think it advisable to imitate, or rather I should imitate it much oftener than I should the swimming down stream. In pulling your bait up stream, also, it is easy to vary the motion by letting it be stationary, at times, where the current is strong enough to make it spin and to keep it off the bottom, and where the stream is more than ordinarily rapid you can occasionally imitate the motion of a fish letting itself be lazily carried downwards by the stream. To do that you must not slack off entirely, because if you do, your fish will be carried downwards like a dead thing, whereas it should appear like a fish just keeping its nose to the stream, but letting itself drop backwards. Do not take off the tension on your bait altogether, but lessen it, continuing to just feel it, so that you will be keeping your bait's nose to the stream, and be ready to feel at once if you get a run. But if you draw your bait across the stream, you will show it to many more fish, and therefore have, in my opinion, a much better chance of taking one; and that is on the whole my favourite throw, sometimes letting the bait describe a semicircle by simply keeping the top of the rod still, and letting the stream, when strong enough, do the rest; and sometimes drawing the bait right across, or half across half up, varying it each throw so as to search all water, and because it is said that "variety is charming."

Much depends on the pace at which you draw your bait. Many draw it a great deal too quickly, under the impression that it is all

important that it should spin round and round with lightning speed. But there are other things also which are important. The only object of the bait spinning round and round on its own axis is, as far as I am aware, to conceal the hooks, and perhaps also to give the general appearance of a fish moving by vibration of the tail. But chiefly, I believe, to conceal the hooks. My idea is that it is better to attain this end by having few and well-concealed hooks, than at the sacrifice of natural motion in the bait. It is true that from paucity of hooks you sometimes have a run and do not hook, because your bait has been taken by the tail where there is no hook. But I would rather have that disappointment than not have the run at all by way of diversion; and my belief is that you get more runs on fine tackle with few hooks than you do when you have a bait bristling with hooks enough to scare away the most strong-minded of fish. Moreover, the Mahseer ordinarily takes the bait in head foremost, as a trout does, not crosswise as a pike does, consequently a tail hook is not needed, except to avoid occasional missing of the bait, and I certainly would not use it just to guard against such an accident. I would rather rely on the fish missing the bait altogether, and coming at it a second time. Again it will be remembered that the leathery mouth, and the habit of compressing its prey, both point to fewer hooks being needed for getting hold of a Mahseer than are ordinarily used for trout and pike and salmon. Besides, there is a great advantage in fishing slowly. Predatory fish do not ordinarily hunt down flying game like a dog; they take it unawares like a cat, and if they feel they cannot seize it at a spring, or a rush, they give it up, and watch for another opportunity. Consequently, if a bait passes them rapidly, they take no apparent notice of it, considering the attempt at surprise likely to be vain. Many and many a time have I watched them do the same with a passing live fish. The young fellow is probably not unaware of the dangerous quarters he is passing through, and makes a dash for it accordingly; the old fellow sees with half an eye that he is wide awake, and makes no effort to overtake him. So little notice does he take, although the small fish has come close by him, that you are disposed to think he is not a taking fish, not on the feed, but a thoughtful beggar reflecting on the immoral tendencies of cannibalism, and seriously meditating the giving of it up. But keep your eye on him now, as that other little fish which is sauntering leisurely upwards comes by him, there is the slightest possible undu-

lation of his tail, he takes just one step backwards* as if preparing for a spring, then suddenly makes one lightning dash, and the small fish has undergone deglutition. That is evidently the motion that pays. Imitate it then. But you dare not trail your bait so lazily, so listlessly, about in bright water if you have a multitude of obvious hooks. For slow spinning in clear water the necessity for light tackle with but few hooks, and those well concealed, is therefore imperative. Flights of hooks invented by Englishmen for English waters, are better suited to them than to the bright waters and bright skies of the Indian angler. Besides its being unnatural for a predatory fish to give chase to, and hunt down, a small fish or bait that is passing at such speed as to indicate a preparedness for flight, and to put him at a disadvantage for seizing it at a single short dash, like a tiger's bound upon its prey, it is also to be considered that he may not have seen it at all, or it has passed out of his sight, or reach, all too quickly.

Here I must acknowledge obligation to L. J. for the following kindly communication made in the *Asian* of the 23rd December, 1879. I will quote here only his postscript, because that only is to our present point. The rest of his letter will be quoted further on. I will only premise that the rest of his letter shows a capture in thirteen days of 958 lbs. of fish, a little fact that gives weight to his evidence. He says :

"P.S.—I have thought once or twice of writing to Mr. Thomas about Mahseer *chasing* fish. In page 79 of his book he says, referring to Mahseer : 'Predatory fish do not hunt down flying game like a dog ; they take it unawares like a cat ; if they feel they cannot seize it at a spring or a rush, they give it up and watch for another opportunity.' I am not one of ye giants in natural history, and therefore I am not going to pit† myself against the Author, as I should only get the worst of it, but I just want to tell him that I on two occasions saw Mahseer hunting.

"On the first occasion I was playing a fish on a long shelving sand, where I could see my fish some 30 yards off. It was late in the afternoon, I saw a small fish come full speed from the deep water and pass close to my feet (I was standing in about a foot of water), followed by a Mahseer who came tearing along until his dorsal fin stood out of the water. He was so close

* The reason for the slight backward movement will be seen hereafter in remarks on the swimming of fish.

† Pitting should be out of the question between brothers of the angle. I am only very much obliged to L. J. I hope he will take in good part my venturing to be of the same opinion still, and my reasons therefor.

to me that had I not been playing a fish I should certainly have tried to throw myself on him and tried to catch him in that way. He evidently did not see me in his hurry until he almost ran against me. He appeared to be a fish of about 25 or 30 lbs.

"On the second occasion I saw a lot of small fish regularly hunted into a corner by two Mahseer, and then the gobbling and splashing that took place must have made it very lively for the little ones."

These observations of L. J. certainly militate against my quoted view, and yet I will venture to be "of the same opinion still." Not that I doubt or undervalue L. J.'s observations in the least. I accept them fully, and yet I think there is plenty of room for us both to be right. My view is, I think, still the rule; so it will be seen that I still stand by it, qualifying it only with the one word "ordinarily." Indeed, most general rules have to be qualified, for animals are not like machines that move with never deviating precision, and are incapable of change. In the matter of the size of the bait, and elsewhere, I have mentioned that the rules which I may have indicated cannot be considered absolute. Nevertheless, it is useful, I think, to indicate what is the ordinary rule, for though animals may deviate from it, we shall have more sport if we fish in accordance with the rule than with the deviation. Again, I have been perhaps just a little bit afraid of being tedious and wanting in connectedness and perspicuity, if I mentioned and argued out every qualification, as in the present one. In the sentence questioned, I have instanced the habits of capture in the dog and cat, but even those instances are not to be accepted without qualification. The dog ordinarily hunts down flying game by continuous pursuit, but sometimes, as in efforts to catch birds, it steals up and makes a pounce like a cat. I have known a pair of dogs beat a hedge in this way, one on each side. The cat, too, and the tiger are not absolute in their ways. At times they will follow up their prey in hot pursuit, and tigers will also drive their prey, as L. J.'s Mahseer drove theirs, into a place where it may be taken at advantage. Tigers will post one of their number in a gorge for others to drive towards. Some friends of mine found themselves being thus quietly edged up. Wild dogs and wolves will thus beat towards their ambushed fellows, yet it will not be objected to that it is the generally accepted view, and it will be admitted as a fair description, that the wild dog and the wolf capture their prey by hunting it down, the cat and the tiger by surprising it.

In like manner, I think, I may hold to my description of the manner in which the Mahseer captures its prey as a right one, L. J.'s manner being the exception, which, however, it is interesting to know and note. In connection with remarks on striking, I have myself noted a pertinacious hot pursuit of the bait by Mahseer; nevertheless, I do not think it the rule when the prey is moving rapidly. Trout will also chase small fish in the shallows, but their rule is rather to watch for what the stream brings within reach of the station which they have taken up.

While it is comforting, therefore, to know that the Mahseer may sometimes hotly pursue your bait a long way, even though spun too rapidly, it is better to trust to slow spinning, so as to give him an easier opportunity.

Furthermore, there are more or less educated Mahseer, as there are highly educated trout. Much fished trout, it will be admitted, require to be fished for with finer tackle, and less hooks, as well as with greater skill than do others. Similarly there are unsophisticated Mahseer, dwelling in uninhabited wilds, that are capturable with ease by almost any fisherman; while there are others that have learnt caution from their growing acquaintance with "that arch deceiver man," and have to be fished for with more care and more knowledge. Such fish, especially the larger, older, and more experienced ones, are more constantly on the look-out for man, more suspicious, and more intelligent in their criticism. I have heard say, that once upon a time there dwelt in fair Thames a trout so much fished for with all sorts of tackle, and grown so experienced therein, that not only could he detect an artificial minnow at a glance, but he could tell even *the shop it came from!* I am afraid I cannot produce a Mahseer quite up to that, but they are on the way to it.

My belief is that Mahseer, and other predacious fish, prey rather on sick fish than on others, and for the simple reason that the sick and weakly are the more easily captured. The same rule obtains with tigers, jackals, and other beasts of prey, the sick or wounded deer falling speedy victims where the hale and strong escape. I remember once fishing a pool with a small fly for Chela, Barils, and such-like. The pool was full of them, so that the Mahseer had no lack of small fish whereon to feed, but I saw no Mahseer feeding till I hooked one of these little fellows on my small trout fly. Immediately a Mahseer came at it, and I was in fear and trembling for my little trout rod. My conclusion was

that the Mahseer had noticed that the fish I had hooked, and was pulling in, was in some way distressed, and was therefore more easily capturable. This theory may comfort you in spinning, for a spun fish looks rather like a fish in difficulties, than like a hale and active one. It is also another reason still for spinning slowly, for a distressed sick fish moves slowly and wearily, not with vigorous speed like the too quickly spun fish.

A fish's range of vision generally is held to be limited by its inability, except in the Angler fish, to dilate and contract and so accommodate the eye to distance, and I think that laterally in the water it is still further circumscribed by the element, that however quickly it may see anything reflected against the light or in the air, it does not see so far laterally under water, in part because of the density of the element. On no other theory could I understand how it is that large fish and small fish manage to exist in such close proximity. You see any number of small fish in one part of a pool ; and in another part of the selfsame pool any number of the very fish that prey upon them ; and those fish are on the feed too, though not noticing the little ones, for directly you spin one of those same little ones *near* them as a bait, it is taken ; whereas if the big fish had seen the little ones, I cannot conceive why they should let them alone, and immediately take your bait. These little fish, it should be remembered, have no thick coverts in which to hide, like deer from the tigers that prey upon them ; nor have they greater fleetness by which to escape in the open. The substitute for their protection seems to be the short-sightedness of fish and the density of the element in which they live, which makes it difficult to see distinctly any great distance through it laterally, and without a background of light. Fish can dart exceedingly quickly for a short distance, so that a small fish that gets a start before the larger fish is in motion can be very quickly out of sight. Probably only the unwary are taken by surprise, the others relying on the density of the element to save them. Whether by surprise or pursuit the sick could not avail themselves of this means of escape, and would therefore be especially affected by the predatory fish. If there were no such means of escape it would be difficult to understand how small fish could live and feed with any pleasure in the presence of their habitual devourers. With such a retreat close at hand, however, they feed with a sense of security in full sight of their enemies, just as a rat does, enjoying his meal and eyeing you the while, well knowing that his hole

is close by, and that he can be into it in a second. It is the hypothesis of short-sightedness only that makes it intelligible to me why a fish which suspects your bait, follows so very close behind it, within a few inches instead of feet or yards, examining it before it makes up its mind, and requires to follow it for some time too, scrutinizing at those close quarters, before it can satisfy itself about it. This theory of short-sightedness, and especially laterally, in the water, has special application to running water, in which the line of vision is much broken by the disturbances in the stream, not necessarily violent disturbances as in a run or stickle, but as in a gentle eddy, as in any part of a river in which some water is passing other water, and thus breaking the line of vision. This must be constant in all rivers, for there is always friction between particles of water in the flow of the stream, and always a back draught or upward flow along the edge of every river. There is more or less friction, according as the stream is more or less rapid. Through perfectly clear and still water fish may be able to see, somewhat indistinctly, some little distance laterally, as through thick plate-glass, but when the water is broken their plate-glass becomes to them like ground glass. That is my theory, and I think fishermen will find that adoption of it, and attention to it, will influence their sport.

It is true that large and small fish ordinarily frequent slightly different parts of a river, still they are not so far apart but that the big fish ought to be able to see the little ones, if the density of the element did not curtail their length of vision, and the broken rays refract it. This my belief becomes a reason in my mind for spinning in right places, for showing your bait exactly where a fish is likely to be lying, and one of the several explanations why a good fisherman, who knows such places intuitively, kills more fish than a tyro. It is one of the grounds for my opinion that a spun dead bait is preferable to a live bait, which, from being stationary, is not shown to nearly so many fish. It is to their short-sightedness under water that I trust, and find I trust rightly, in wading in to fish, in preference to standing on the bank. If they could see far laterally in water, they could not fail to see the fisherman's two legs and trousers all in the water up to the fork, and seeing, they would refuse his lure. And yet all fishermen find that it pays very well to wade.

This argument of short-sightedness is in favour, therefore, of spinning slowly, so as to let a fish see, and to give it a chance and a

confidence of catching your bait. The chances, I say, as well as nature, are against spinning quickly. For my part I like to dawdle a bait about, up and down, under this bank, close by that big stone, and let it peep into every little nook and cranny likely to hold a big fish.

But, perhaps, you may see a big fish eyeing your bait, what is to be done then? You feel disposed to cease pulling it away from him, and to let him have a better look at it. The first impulse is to stop altogether, and wait for him. Such a course would be fatal. Spin quietly on as if you had not seen him. If he has already suspected your bait, you will not mend matters by letting it fall dead before him. But if, on the contrary, he is simply eyeing it, to see if it gives him a fair opportunity for surprising it at a spring, then let that opportunity appear, by continuing its listless dawdling motion in the same direction, and the chances are he will make up his mind with a promptitude that will astonish you; and so sudden will be his dash that, before you have well seen him move, you will feel he has taken your bait. But if he does not, try him again with another throw or two, bringing your bait by him in different ways, but not too obtrusively. I remember one of the first times I tested these tactics. Two decent fish of the perch family (*Lutianus roseus*) were deliberately following my bait. They were side by side, and about a yard behind my bait, but they kept on following it deliberately, and eyeing it intently without offering to come a bit nearer. "Oh, my heart went pit a pat, pit a pat;" but I screwed it down resolutely, and I bethought me what should I do now if I was a nice little fish, with two great ugly brutes like that behind me. Why, if I knew it, I should bolt like mad instanter, and if I did not know it, I should just go quietly paddling on exactly as I am doing now, and then I should probably get masticated for my listlessness. So the end of my cogitations was that my bait was made to act out this little pantomime, to pursue the even tenor of its way seemingly unconscious of the devouring element behind. But oh, the agony of suspense! This spin can't last for ever. Will they never take? In another yard or two the bait will have come so home to me, that I shall have to pull it out. I was rewarded: one of the two, probably the unsuspecting and inquisitive female, had made up her mind that it was "O. K.," and had dashed so suddenly on the bait, that all I was aware of, was her disappearance from the side of her companion, and a tugging at my rod. The consequence was that she and I became very much attached to one another,

and my rod kept on bowing elegant approval, while we had our lively dance together, at the end of which I led her to a seat in the boat. So ended this "spin."

Fishing in bright water as one does, and as I have explained should do, in India, many a little pantomime of this sort is seen throughout, and something learnt therefrom of the manners and customs of the scaly aborigines. But it should always be remembered that two can play at that game. If you can see the fish easily, so too can he see you, and much more easily than you can see him. He has every advantage over you. Though I have twice touched passingly on this subject already (pages 56, 58, 59), it is well worthy to be gone thoroughly into, because it is at the very bottom of all good fishing, cannot well be made too much of, and finds proper place here on remarks how to fish. The very first principle, the most important rule of fishing, is to keep well out of sight, and to accomplish this end too much pains can scarcely be taken. Again and again have I urged this as *the* main secret, on brothers of the angle, who questioned how on earth I managed to get my basket so full of trout. But again and again have I found that all the same they have only half admitted its force, concluding, ostrich-like, that because they could not see the fish, the fish could not see them. I feel, therefore, from the experience aforesaid, that it is almost a hopeless task to convert my reader from the general neglect of this maxim, to a thorough belief in the all importance of keeping it constantly in view, and of acting up to it with the amount of painstaking care that is necessary to command success. Indeed, I find I constantly have to be taking my own self to task for not being *sufficiently* careful in the matter, thoroughly though I believe in, and practise what I preach.

Properly to appreciate the necessity for exercising unusual pains to keep out of sight it is as well to consider the facilities which the fish has for seeing. Putting aside for the moment the exceptions amongst fish which, like the Freshwater Shark (*Wallago attu*), have their eyes less developed and are more dependent on smell and feeling, and referring here only to the majority of fish which are mainly dependent for their existence on their eyesight, common observation of the rapidity with which they see the minutest objects passing them in the water suffices to show that their sight must be good; and though there may be some controversy about the imperfection of a fish's visual organs, I incline to the opinion that it is only in this one respect of

adaptability to distance that it is purposely circumscribed, and that within the limit of distance, whatever that may be, there is no want of keenness. And yet so many anglers act as if it was "as blind as a bat," forgetting that in addition to eyesight a fish has over them great advantages of size, colour, position, and element, of all of which it naturally avails itself. It is not a tenth of the size of a man, and in mutual observations the larger object is obviously calculated to be seen first. Then its colour, like that of most, I may say all, animals, is beautifully adapted to conceal it in its usual habitat, whereas a man who clothes himself by his own imperfect lights and the tailor's, does so in direct variance with all the rules of nature. The object of his fashions is not so much to conceal his existence, as to be "the observed of all observers," and *sometimes*, indeed, to be comfortable. What more readily attracts the eye than a white paggaree, and an almost white coat to reflect the sun? A black coat is very little better, and is noticeable, as every sportsman knows, at a great distance. Then consider the difference of position. The fish is against a background, the bottom, of nearly his own colour, whereas the man is standing out in bold relief against the sky. The fish, furthermore, is motionless, while the man is waving about a great stick of ten or sixteen feet long, moving his arms to do it, and cannot even keep his legs still. He is moving the whole of his comparatively big person, as he walks along the very edge of the stream, and not unfrequently on the top of a high bank. Motion catches the eye.

But besides these obvious advantages of comparative size, of colour, of position, and of being motionless, the fish has still another very materially favouring circumstance in the element in which he is. Water refracts, or breaks back the line of the rays of light. Newton says: "Refraction out of a rarer medium into a denser is made toward the perpendicular," and as water is denser than air, the fish can see you round a corner; he can see your white paggaree before it is in a line with his eye. This is very simply demonstrated in the old illustration about a shilling. Put a rupee into an empty tea-cup or a slop-basin. Retreat gradually till it is just out of your line of vision. Let a second person pour in water, and you will see the rupee come into sight again. H A K being the surface of the water, when you look down at the angle B A, and think you see a fish in a straight line at D, it is really at C, and when a fish at C looks up in the direction C A L it sees you

at B, the line of sight taking the course C A B. It is true this cuts both ways, enabling you, as well as the fish, to see round a corner, but as you neither of you should see each other, it is an argument for keeping further away from the bank than if you both saw in a straight line.

The diagram illustrates a geometric principle. It features a vertical line segment on the left labeled 'E'. From the bottom of this segment, a dashed line labeled 'L' extends diagonally upwards and to the right, ending at a point labeled 'B'. A solid line segment also connects the bottom of 'E' to the point 'B', representing a straight line path.

But I have comfort for you yet from the laws of refraction and reflection. A fish cannot see you out of the water at an angle of more than $48\frac{1}{2}^\circ$, which is K D E in the second diagram, K E F being the surface of the water, and K D the perpendicular. If it tries a more obtuse angle, as K D F, the under surface of the water is like a mirror to it, and reflects to it the bottom at B, just as you see the surface of the water reflect to you the trees on the opposite bank.

Allowing for the refraction shown in the former diagram, a fish looking out at the angle D E would see you not at A but at H, so that if your head is below the line E H it would not be visible to a fish at D; but if you are wading, and within the line F B, your legs would be visible by reflection at D, unless the movement of the water hid you.

This is the law which accounts for stooping, or lying down on the bank, or getting to a lower level by wading, concealing you from a fish.

But in wading you must remember that water conveys sounds made *in* the water well, and fish are surprisingly sensitive of sounds made under water. It is said that in still water a stone striking the bottom, or a rupee in a swimming bath, lightly though it falls, can be heard a long way off by a person under the water, though he could not hear his friends shouting to him above the surface of the water. So you should wade quietly, not flounderingly.

If you are not fishing, but wanting to observe the habits of fish, and can afford to be perfectly motionless, that is quite another thing. Much may be seen by creeping very slowly and imperceptibly up, with a rock or tree-trunk for a background, and remaining perfectly motionless. It

is movement, the slightest movement, that catches the eye. It is by sitting motionless as a stone for hours together that the cat kills a squirrel. Motion is a sign of life, and when it is absent, animals, as well as men, are prone to doubt their eyes, and to take the object for some inanimate thing.

But do not trust to this if you are fishing, for it is unnecessary as it is difficult that you should see your fish at all, and as above shown, the chances are about ten to one that he sees you before you see him, and then your catching him is a thing out of the question. You do not want to interview the fish, you want to catch him. Take a distant survey of the water, and when you see a likely-looking bit, take its bearings, and decide whence you shall make your approaches on the enemy's position. Then stalk it as you would a sambre. Stalk not any particular fish, but stalk all the positions in which any fish are likely to be; in short, stalk the pool as if it were a living thing full of eyes, which, in fact, it is, and if any one of them sees you, and its owner darts frightened away, the probabilities are that the rest also will take alarm from his movements, and not a fish will you take in that pool. Do not stalk for too close a shot either; you do not need to be nearer than just to see your line fall, than just to see the surface of the water you are fishing, so that you may keep clear of rocks and snags and fish it properly. But you do not always require to do even that. If from your first distant observations you know that the coast is all clear in a certain direction, then fish it round the corner of a rock without even seeing it. This is the best position in which you can possibly be. You do not need to see. You will feel fast enough if a good Mahseer has got hold of you, and then all you have to do is to return the compliment by holding on to him. If your hand is practised, you will know how your bait or your fly is deporting itself, though round a corner and out of your sight. Please note that I refer here to Mahseer only. Striking generally for different fish is described further on as a separate subject, and the page may be found in the index under the word "Striking."

In so stalking, perhaps, you have attained a snug position in which, by lying down or otherwise, you are invisible to the fish, but in attaining it have unavoidably shown yourself at some awkward corner that you had to get round. If so, do not begin fishing at once, but wait long enough for the scare to pass off. When confidence is re-established

you may again invite speculators to take shares. Many a goodly trout, like his betters, has been taken out of inaccessible retirement by such tactics. There is a peculiar charm in being even with the wary one that has baffled you and every one else up to date. The basket is the proper place for him, you always had an idea it was, and in he slides most satisfactorily.

There now, I have been very heavy and very long-winded on this subject; but if I have converted you, I know you will not quarrel with me in the end, whatever the non-fisherman reader may do. A fuller basket will make a friend of you.

In Chapters II. and V. I have said that I prefer to spin with a pliable fly rod with a fly top, just such as I would use for fly-fishing for salmon; so I suppose I ought to say just two words on how to use such a rod for spinning, for there are good pike fishermen who are accustomed to trolling for pike with a stiff rod, but whose manner of casting the bait would soon break a fly rod. According to the old style, and unless you use a Nottingham reel, or its equivalent (for which see Reels or Winches), with a stiff rod the line is gathered in near the reel by the hand after every throw, and spread at one's feet, till the length between the bait and the point of the rod is less than the length of the rod; then the bait, which must be heavy, is swung out with some force, and the force and the weight of the bait carries all the line out through the rings. The force necessary for such casting would very soon break a fly top. My way is therefore different. I never gather in any line with the hand. I reel it up if need be for change of ground. But ordinarily I do not change the length of line which I have out. I swing the bait like a pendulum, and when it is at the end of the swing back a very little lift, *if well timed*, that is, if made exactly at the end of the swing back, will send the bait out to the full length of the line. I ordinarily have about as much line out as a length and a half of the rod. It is better to begin with less, and you will soon find that you can cast in this way with a line about twice the length of the rod. Say the rod is 16 feet, and the line out 32 feet, then if you cast this amount of line straight out, and drop the point of the rod so as to have it pretty straight in the direction of the cast, you will find that you have dropped your bait $32 + 16 = 48$ feet away from you. A cast in this fashion of 45 to 50 feet may not be as much as can be managed with a stiff rod and the ordinary way of throwing a heavy bait, but it is enough

for sport, and covers a good deal of water, and the loss of a few feet in the length of the cast is, in my opinion, very much more than compensated for by the aid which the pliable top gives you in meeting the suddenness and violence of the Mahseer's onslaught, as already set forth in Chapters II. and V. As the bait is on the point of falling into the water it should be just felt with the top ever so slightly, so as to make it fall lightly and noiselessly. To do this well in a long throw is a delicate operation, requiring, to my mind, a very great deal more skill than is needed for casting a fly lightly for trout. I do not hesitate to say that it is a very much higher art to spin well in this fashion than to cast a fly well, whether for trout or salmon. Besides the casting, there is also so much more room for skill, in the life-like management of the bait in the water, than is needed for the right handling of the fly. But the very difficulty makes the skilful accomplishment all the more pleasurable.

In passing let me add that a first-class fisherman tells me he often breaks rod or line by a fish taking him just as he has put a great strain on to bring the spoon out and swing it for a fresh throw. Avoid this by always bringing the spoon to the surface and lifting out lightly for the next throw.

For throwing with a pliable rod the bait must, as I have said, be light. If you use a fish you are somewhat restricted in size; sinker included, you cannot well swing a fish more than six inches long without straining your top.

It will be found convenient to hold the rod with the middle finger of the upper hand above the running line, and the other fingers below it; when swinging the bait for a throw, close the upper finger on the running line to prevent its being jerked out; when spinning take it off, so that the line may be perfectly free to run out the instant a fish strikes.

If fishermen would spin in this manner they would not be so wedded to stiff trolling rods for Mahseer fishing. It is because they have been told that they must spin for Mahseer as for Pike, that they have taken to a thing like a Pike rod, and then, finding they have a much finer foe than a Pike to fight with, they have had their tackle broken, as was to be expected, and have put down the breaking to the fish, instead of to their using the wrong rod, or perhaps spinning wrongly so as to compel them to use the wrong rod.

But I trust the stiff heavy rod, once styled the Mahseer rod, has

now died a natural death in the face of the reasons given for using a pliable rod.

When to fish.—But the heading of my chapter is How, When, and Where, and the next point is when to fish. When as to season of the year, when as to time of day. The season of the year is everywhere practically governed by the same principle, being the season when the river begins to clear after being in flood, and this necessarily varies with climatic differences in different localities over such a wide area as all India.

On the west coast of Southern India the flood time of the rivers debouching on that coast is governed by the South-west Monsoon commencing from 5th to 15th of June, and keeping the rivers in high flood till the end of September. The rivers are sometimes fishable near their sources at the end of September, but are seldom to be relied on till 1st October, because of the occasional showers that come down in September and spoil sport. The sooner after clearing the better the fishing, just as trout take best at the beginning of the season. From 1st October then till the mango showers in April, or till the end of April, Mahseer may, generally speaking, be taken, but the best months are October, November, and the first half of December, because when the cold of December comes on, and the east winds prevail, Mahseer are a good deal off their feed, indeed generally quite off, though they may occasionally be taken in the deeper pools, where they seem to find the temperature of the water less influenced by the cold wind. In many places also fever sets in with increasing virulence from 1st January till, in June, there has been a week's heavy fall of South-west Monsoon. The best season then on the west coast of Southern India is from 1st October to 15th December.

For the larger rivers of the east coast of Southern India the season is the same, because they are governed by the same monsoon, the Caverry, the Bawanny, and their affluents having their sources in the mountain ranges which arrest the force of the south-west monsoon.

Going farther north the sources of the Tungabudra and the Kistna are subject to the same south-west monsoon.

For the Godavery I am told the season is "in the cold weather and up to June," which I suppose means from December to June. But any one living in the locality can easily learn when is the time of the abating of the floods.

When you get farther north still the matter is further complicated by melting snows, and certain rivers have idiosyncrasies, as the Ganges, page 51, *supra*, and others mentioned in the "Angler's Handbook," from which I quote the following, premising that for "In India" I would read the Bengal Presidency :

"Season.—In India there is not much doubt but that March and October are the two best months for fishing in most waters, and on the whole the spring fishing is the best ; but, of course, in different rivers the seasons differ according as to whether the water is affected by the melting snows. For instance, fishing in the Poonch after the middle of April is uncertain, and at times almost useless, at least for spoon fishing, as the river is swollen by the melted snows ; whereas the Mahl, only three or four marches distant and in the same territory, is beautifully clear until the rains commence in July, and in fact March seems to be almost too early for this stream, as the snow on the hills near the Mahl melts very early. Again, in the small streams round Pindi, which are scarcely affected by snow water, fishing may be carried on almost all the year round. As a general rule, December, January, and February are blank months, but General Dandridge's wonderful bag made at Torbela in January, 1887, and recorded in Part II., shows that on occasions the fish will take ravenously even in the cold weather. This is, however, very rare, and quite exceptional, and as a general rule it may be taken for granted that there is no fishing obtainable during these months."

For Burmah I am told : "The rivers begin to clear the second week in September, and are, for the most part, in good order by 1st October."

These then being the general seasons, it is still to be remembered that Mahseer, as well as Labeo, and probably most similar Indian fish, are not exempt from being put off their feed by thunder in the air, just as trout are in England, and also by cold winds, but you will not be so often troubled with this in India as in England because the climate is not so variable. And especially on the clearing of the floods after the rains you will be quite free. Then is your time, *carpe diem*, for you will get a carp a day, or rather several Mahseer.

Where there is rice cultivation you are sometimes troubled by discoloration from ploughing for a second crop, but these are very local and temporary grievances.

The time of day is also a thing to be considered. Fish will run all day long, especially on cloudy days, but I don't much believe in them

between 11 and 3, and I think the best hours are before 9 A.M. and after 4 P.M. till sunset. Directly after sunset they cease running at a spinning bait, though they will take a night line. I presume this is because they do not see well enough in the dark for the moving bait, and are guided to the stationary bait of the night line chiefly by scent. As to the uselessness of going on spinning after dark, the keenest reader may I think be content to take me on trust, for, when by the river's side, I have been so keen myself as to go on fishing into the dusk and dark, though the place was densely forest-clad, and the margin marked with fresh tracks of crocodiles and panthers, only taking the precaution of having a man behind me with a loaded rifle, and trusting to his having sufficient care for his own vile body to keep a good look out in the rear of mine.

Where to fish.—And now for where ; where, in the two senses of in what waters, and in what parts of those waters. Mahseer, I believe, are to be found in every large perennial river in India. I know that they are to be found in every river on the west coast that I ever heard of. I know they are to be found in the Mysore rivers ; I know they are in the Cavery, the Bawanny, the Kistna, the Tungabudra, and the Godavery. I hear of them in all the good rivers of Northern India. The lover of the picturesque will find them, admiring with him the adjective-exhausting falls of Gairsoppa, and dancing in the glad waters of Hoginkal, and other falls of Cavery ; in Afghanistan, Chitral, Burmah, China, and, I believe, Japan, they are equally at home ; and I believe they have, in the East at least, every bit as much right as the Artillery to the grand motto *Ubique*.

But they mostly affect the rocky mountainous parts of rivers. I had almost said they are confined to such parts, and are not to be found where the river grows broader and shallower with a sandy bed. There are no doubt instances where they markedly cease as the river leaves the mountains, and I have known them called an essentially mountain fish in consequence. But they are to be found again where rocks recur lower down the river than the sandy flats, and there are deep pools and heavy runs among the rocks ; and they are even to be found in deep, still pools without a rock in them, so that it is not clear what rule, if any, governs their selection of locality. But I think there is no doubt that they chiefly affect the rocky mountainous parts of rivers, and that very many more and finer Mahseer are to be found in

such parts than lower down a river. To such parts, therefore, I would recommend the Mahseer fisherman to confine his attention.

We speak here of the whereabouts of the Mahseer only. The localities in which to find other fish will be mentioned separately in connection with each fish, and some peculiarities of position will be noticed in the Chapter on Localities.

It may be of service to the fisherman to have a list of good angling stations, after the manner of "The Angler's Diary" in England, together with hints as to how to get to them, and to exist at them; for though a river may be a good one, there are sure to be particular parts in it in which the runs and pools are deeper, and better, and more approachable than elsewhere. A little information, therefore, on this head I shall endeavour to give in a separate chapter. But it is obvious that, for such a vast area as Hindustan, a list made out by any one man must be exceedingly meagre, and I would suggest that if brothers of the angle would contribute information about the different localities they have tried, we might very soon get together a goodly batch of information, so that new comers from England would be at no loss where to spend a little leave or leisure, and even old hands would find, when transferred by business or pleasure to new localities, that they could tumble better on their legs than they could without this information, and that there were a lot of other fellows besides themselves that "know a thing or two." To the charitably disposed, therefore, I make my appeal on behalf of brother anglers.*

This appeal was thus made in the first edition, and kindly has it been responded to, both by direct communication and by letters to the *Field* and *Asian*. The result appears in the Chapter on Fishing Localities. It falls, however, very far short of what I had hoped to attain to, and as it is the chapter which may well be the most useful part of the whole book to really good fishermen, I will let the appeal still stand, in the hope that brothers of the angle may continue to communicate their knowledge of localities.

This appeal has also led to the same idea being carried out by the North Punjab Fishing Club, and Part II., the larger half of their book, the "Anglers' Handbook," W. Newman & Co., Calcutta, is admirably devoted to it, with maps and routes and plans of rivers in practical

* Any communication through my publishers, or through Messrs. Arbuthnot & Co., Madras, or Messrs. H. S. King & Co., 45, Pall Mall, London, will always find me.

detail. It might have been called the Anglers' Bradshaw, and in every angler's library in Northern India it should repose lovingly alongside of "The Rod in India," and "Tank Angling in India," with an arm round each of their necks; indeed, that is the kindly spirit of the editor, Dr. Cretin, and of more than one of its contributors, to whom a brother angler's cordial grip is given.

But supposing we have arrived at the river's side at a good locality, where in it are we to find our fish? An old hand does not need to be told, for he knows instinctively, though he has never seen the river before in his life. You can tell well enough from the outside of a house whether it is a poor man's cottage or a gentleman's mansion, and if you have an eye for the water, you will be able to make a very shrewd guess as to where the best fish lie. As a rule the swell is to be found in the best house, except in Ireland, by the way, where the finest structure in the villages is the poorhouse. But then everything goes by contraries in "poor owld Ireland," even down to the cereals, for there Paddy raises the riot, instead of the Ryot raising paddy, as he does here. Still, out of Ireland, the rule holds good, and the swell fish, as well as his brother biped, is to be found in the best quarters; and those are readily recognizable.

Look for a Mahseer in just such water as you would expect to find a salmon, in the deep runs, especially where a fall enters a pool, and in the eddies of those runs.

The depth should not be less than up to the fork, and after that the deeper the better; though Mahseer, like trout, visit the shallows in search of small fish, etc., when the water is discoloured, and at night when the water is bright, returning with light to the deeper water. When the water is very slightly discoloured I have "found my account" in fishing where the river shallows just above the head of a run, in water so shallow that you would think a big fish could scarcely lie in it, water scarcely up to the knees. The Mahseer seem to visit it then for the better capture of small fish. If you attempted to fish in such places in bright water you would be seen.

For a Mahseer you may fish a run all its length. I have taken them quite at the tail of a run, and I have taken them in the very white water of the fall. They are not afraid of the water. But midway in the run is about the place for the highest hopes. I have, however, a special weakness for the eddies, though they are the most difficult to

fish, because I think the best fish are generally found in them, and I prefer one good big fellow to two or three smaller ones. But in fishing the eddies, try and bear in mind that there is generally one on your own side of the river, just as good as the one under the opposite bank. Why should you be seized with that "*ulterioris ripæ amore*" which seems to be almost universal? Why? Probably because you had not prospected the place before you came to it, as I recommended, and are standing right over it, before you were aware of its existence, and have consequently spoilt it for all fishing purposes. Whereas had you prospected, and stalked the place, as I recommended, you would have shown nothing but the tip of your rod over the bank, and with a short line would have dropped your bait in close under it. It is time enough to try the run, and the opposite bank, after you have tried your own side. The opposite bank or eddy is, in nine cases out of ten, more difficult to reach than the one under your nose, and, from the breadth of the river or run, frequently quite unapproachable. Do not, therefore, neglect the eddy on your own shore.

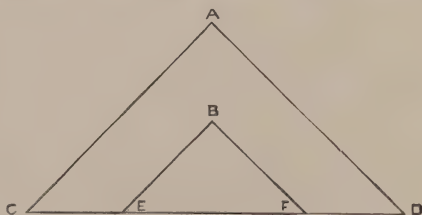
The still deep pools also are not to be neglected. From a boat they are the easiest fishing of all, and yield the biggest fish. On this account some prefer to fish the pools only. An extra reason for fishing the pools is that when from the cold the fish are off their feed on the shallows or runs, they seem to retire to the pools, and a stray fish may be provoked into taking in the pools, when no sport is to be got out of the runs. The plan is simply to let out plenty of line so that your bait may be spinning far away from the boat, which might otherwise frighten the fish, and deep, because big fish ordinarily lie near the bottom, and the deeper the pool the better the fish as a rule. Having let out the line the bait is spun by the motion of the boat, so that it is really spun by the boatman not by you. When you realize this awful fact it strikes one that it is very similar to shooting *sambre* that have been driven out to you by the beaters, instead of stalking the stag *yourself* like an honest sportsman. In letting out the line, of course you will take care, having the boat in motion, to keep the bait off the bottom, for you do not want to catch that, like the man in *Punch*, who got fast into the Kingdom of Scotland. This may be done by raising the point of the rod as required. Commence at the lower end of the pool, and row up against the stream, regulating the pace by the stream. Fix the rod with the reel free, or hold it, as you

prefer. In the lakes in Scotland it is usual to fish thus with two rods, one out of each side of the stern, and, the depth being known, to tie a little piece of bright coloured silk round your running line at the required distance from the end, generally, if I remember rightly, about 30 yards, so that when you see the little bit of silk pass out of the ring at your rod tip you may know how much line you have payed out. Whether you prefer to let out 30, 50, or more yards must depend much on the depth of the pool and the weight of your bait. If you have only one rod you can work it slowly across and across the stern if you like, but always with a taut line, and giving time after each crossing for the bait to swing round; this will cover more water than simply trailing. If you are trailing two lines the second one must be rapidly reeled up by an attendant the moment you have a fish on No. 1 or you will get into difficulties.

Use dead bait, spoon or phantom, which you prefer. I have told you which I prefer, and that a dead bait need not be spun so rapidly as a spoon or phantom.

Though I say fish deep, still do not be too keen about getting your bait very close to the bottom, for many more fish will see it if it is well off the bottom. Bear in mind that a fish can see an object moving across a light background much better than one against a dark background, can see an object between it and the light which is above it better than one between it and the dark bank on the side of it, and that above it, it can, within certain limits (page 99, *supra*), see it the further the higher it is. For instance (*see* Francis Francis' "Book on

Angling"), an object at A, which is twice as far from the bottom as B, will be seen over the whole base C D, which is twice as big as the base E F; in other words, your bait at A will be seen by a Mahseer lying



at C, which would never see it if it was spun 2 feet lower at B. On this theory you may say a fish will see further if you spin on the surface. But, on the other hand, we do not know how far a fish can see laterally, or at any angle out of the perpendicular under water, nor how far from the bottom a large Mahseer may feel inclined to come up after a bait

when the water is 20 feet deep. I should say, therefore, spin about mid-water, and I think you will show your bait advantageously to most fish.

If you are often fishing the same water, you should remember where you kill your best fish, for where one good fish has been taken, another of the same size is pretty sure to be found; the reason being that those fish which lay wait for, instead of searching for, their bait, those which stop in one place waiting and watching for what the stream shall wash down to them, look out for the best places, the places where the chief current of the stream will carry the most food by them, or a favouring eddy will bring it round to them, and there they take up their station behind a rock or stone, so that they themselves may be in comparatively quiet water, but yet in a good position for watching passing events, and as any food comes by them, out they dart, take it, and return to their station. Some such stations are better than others, and the strongest fish take the best. With them it is naturally

“The brave old rule, the simple plan,
That they should take who have the power,
And they should keep who can.”

And when that fish has been taken, and his place is vacant, the next strongest takes it. This is markedly the case with trout in English streams, the proportions of which do not vary much from month to month, and is, in my opinion, more or less the case with Mahseer too, though to a less degree, because the rapidly varying size of a stream will in a month or so, or less, make a favourite station an indifferent one. This rapid variation of tropical rivers also brings it about that you are not so dependent with Mahseer, as you are with salmon, on knowing the river, or having some one who does know it to point out to you the exact resting-places or lies of salmon. They are so constantly varying that you must trust, as you would with trout, to your own intuitive eye for where a Mahseer *ought* to be. But a proper fisherman will readily recognize the most comfortable-looking quarters for a good fish. The power of making a correct diagnosis will be acquired by practice, though there is a spice of *nascitur non fit* about it too.

How soon a vacant place is ordinarily reoccupied I do not know. Sometimes the very next day, if I remember rightly. How do fish find out that there is a vacant tenement? It would seem that they must be giving a look in from time to time to see.

I may instance the following in "My Life as an Angler," by William Henderson, London, William Satchell and Co., 12, Tavistock Street, Covent Garden, W.C., 1880, a book that is *very pleasant* reading :

"I remember a tale told me by Johnny Younger, which shows how surely the angler may rely upon this habit of the largest trout. On one of my visits to his workshops he mentioned three evenings' fishing which his son had recently taken in the Tweed. On the first of these, when fishing upwards, I believe with the worm, he came to the stream which flows immediately below Merton Cauld. The hour was late, the gloaming far advanced, and the angler had captured several trout of the usual size, when on trying one particular spot which he knew by experience to be the best, he succeeded in taking a fish of, if I remember rightly, 3 lbs. weight. On hearing this Johnny observed that no doubt this was 'the tyrant,' and advised his son to try the same spot on the subsequent evening, as the fish next in size would no doubt be found there. The prophecy proved true ; a fish somewhat smaller than the last was basketed. On the third evening another trout still rather less was captured, but the three were far heavier than any others taken."

CHAPTER VII.

FLY-FISHING FOR MAHSEER.

“Away, then, away,
We lose sport by delay;
But first leave all our sorrows behind us,
If Misfortune do come
We are all gone from home,
And a-fishing she never can find us.”

COTTON.

Is any one of my readers half as fond of fly-fishing as I am? If so,

“A sudden thought strikes me;
Let us swear eternal friendship,”

for stoutly though I have argued in favour of spinning for Mahseer, as being the most killing way of fishing for them, and unable though I am to retract, still I could wish that fly-fishing were as killing a way, for it is to my mind the most fascinating style of fishing going. I refer particularly to fly-fishing with a single-handed rod and very light tackle for trout. The nicety of skill that has to be brought into play, to make anything of a bag amongst good and wary trout is sometimes very refined. It is quite distinct from fly-fishing for salmon, and is a much higher branch of the art; though there is an exultant ruder joy certainly in a hand-to-hand fight with a lordly salmon, when once you have got him on. But any man who is a good trout fisherman will readily fall into salmon-fishing; though a master at salmon-fishing may be but a rude trout fisherman. But both the real trout fisherman, and the salmon tamer, will want to know what can be done in India by their favourite style of fishing.

Suppose we commence with the Mahseer fisher. I'll be bound the very first question he asks will be an awkward question; he will want

to know what fly to use for Mahseer. This is a question to which there is no answer with a good reason for it, such as I should like to have at the back of my beliefs. There are pretty nearly as many opinions on the point as there are salmon-flies, and not one of them is satisfactorily supportable, that is, be it added with becoming modesty, in my humble opinion. As far as I can see, it is simply a matter of fancy. I can recognize no principle underlying the colouring of a salmon or Mahseer fly, nor can I conceive why a salmon should care a button whether or not every one of all the variously hued feathers that go to make up some of the more expensive salmon flies, are duly inserted, or more than half of them are forgotten. Take any one of the more elaborate instructions for tying a salmon fly; I should very much like to see the salmon that could tell at a glance, as the fly passed him in the water, whether or not the brown mallard, bustard, peacock, and blue and yellow swan strips, and half a dozen more feathers, were all duly in their place. I do not believe in such a salmon ever having been hatched, no, not even "north of the Tweed." Why, you could not tell yourself without taking the fly in your hand to have a close look at it, nor could the very man that tied it; no more can the salmon without taking it in his hand to feel, if not to see. So that is just what he does. He sees something passing him which he cannot quite make out, it may be good for food, it may not; he will investigate; so he takes it in his mouth, which is his only hand, with which he is accustomed to feel and to taste doubtful objects passing too rapidly to be quite made out by the eye, retaining those that are approved, and ejecting the others. He takes your salmon fly in his hand, meaning to throw it away if disapproved, but, before the spirit of inquiry in him is satisfied, your hook is into him, and he is entering on new experiences.

This is doubtless a very heretical doctrine that I am propounding. I know that the great majority of good salmon-fishers are of the contrary opinion. To them the colours of their flies are as sacred as the strands of their tartans; they would not let you alter one feather; and they will say something about blending colours. I am afraid they will be down on me heavily for this piece of heresy, and I should be overwhelmed by their numbers and weight. There rises before me the fate of poor Prometheus, who got making experiments with electricity. They called it stealing fire from heaven, and ran him in. But

they let Franklin off for the very same crime. Perhaps I, too, may escape. I will trust to the enlightened age. I wish very much though that I could find some theory on which to base fly-fishing for Mahseer. I only look to salmon-fishing to help me in this matter, but I look in vain. As far as I can see the principle at the bottom of all fishing is, the presentation to the fish of a hook, so concealed under something which is its natural food, or which is so like its natural food, that it is taken unsuspectingly in place of food. This principle is thoroughly acted up to in the tying of artificial flies for trout, they being the closest possible imitation of the actual flies on the water, and the fisherman changes his fly every hour of the day that the fly on the water changes. But what on earth a salmon fly is meant to represent no one knows, nor, indeed, why it is called a fly at all, except from the trout fly having given the idea that salmon also might be fished for in the same manner, only with a larger fly. It is only surmised that it is taken by the salmon for a small fish or shrimp, or some other thing unknown. My belief is that it is simply taken for the thing unknown, and experimented on by the salmon in the manner above suggested. In brief the fly is dressed more to suit the fisherman than the fish. The fisherman must have a fly he believes in ; he cannot possibly fish well if he has no faith in his lure. A fly of your own fancy always kills best. If the fish are in a taking humour, that is, are eagerly on the look out for food, they will take any fly you throw in sight of them. If they are not they will only take the fisherman's fancy fly. Therefore, if you have any fancy fly use it for Mahseer ; if you have not, then take somebody else's fancy, mine if you will. For with only fancy and no rationale to guide us, and the necessity for having a fancy of some sort, all we can do is to look about till we find a man who has had the good fortune to kill pretty often with any particular fly, so that he has grown to have a confidence in it, and to use the same till we find a better. Now I have a very thorough belief in black as the colour. I had arrived at such a belief, unbeliever though I am, in 1873. I have been only confirmed in it by subsequent experience. Aye, wedded to it. And I find I am by no means alone in my belief. I find numbers of men use a black fly in preference to any other, and I have been surprised on asking good fishermen at great distances what was their pet fly, to get back from them simply my old friend the black. I believe that anything black will do business. I have tried black wings

and legs with various bodies, with black worsted body, black floss silk body, orange body, peacock harl body, with and without silver twist, with and without tail, and somehow, gradually, I have come to think that the more glossy and shining it is the better, probably as catching the eye sooner. I have made as many experiments on the Carnatic Carp as on the Mahseer, and the fly with which I have done most business was one roughly dressed on the above fancies, out of the materials available on the river's side, to wit, almost entirely of peacock harl and silver twist, with just a little bit of glistening peacock feather for the legs. I had peacock harl tail, ditto body very full with tag, and two or three turns of silver twist, peacock feather legs, and a great bunch of harl for wings. Of course it was a bungling looking fly, but it did its work; that is, till torn to rags; for peacock harl is too fragile a material for wings, and does not last long. I shall therefore commend to my reader a fly tied on the same principle, to wit, as black as I can get it glistening, but of better materials, and I shall call it by the same name as my less gaily dressed friend of earlier years, the Blackamoor, and as I never use any other fly now, I am reluctant to give you any other. But in my first edition I gave also the "Cock-o'-the-walk" and the "Smoky dun," and as I find some men still fancy one or other of them, even above my trusty friend the Blackamoor, I suppose I must repeat them as accepted flies, though I myself am faithful to the Blackamoor.

Why black should be a better colour than any other I cannot tell you. Perhaps it is taken for the black tadpole so common in Indian rivers, and so juicy, and so relished by the Kingfisher I know, and I imagine by fish too. I was very nearly trying a dish of them myself one day. Perhaps it is that black is so readily seen in clear water against a clear sky. Perhaps it is only that it is oftener used, and with more reliance than other colours. In the case of the Carnatic Carp, perhaps, it is that it is mistaken for a broken piece of waterweed. But whatever it is mistaken for it is taken, and that's the great point, and as it has treated me and my friends well, I am ready to stand security for it that it is an honest fly.

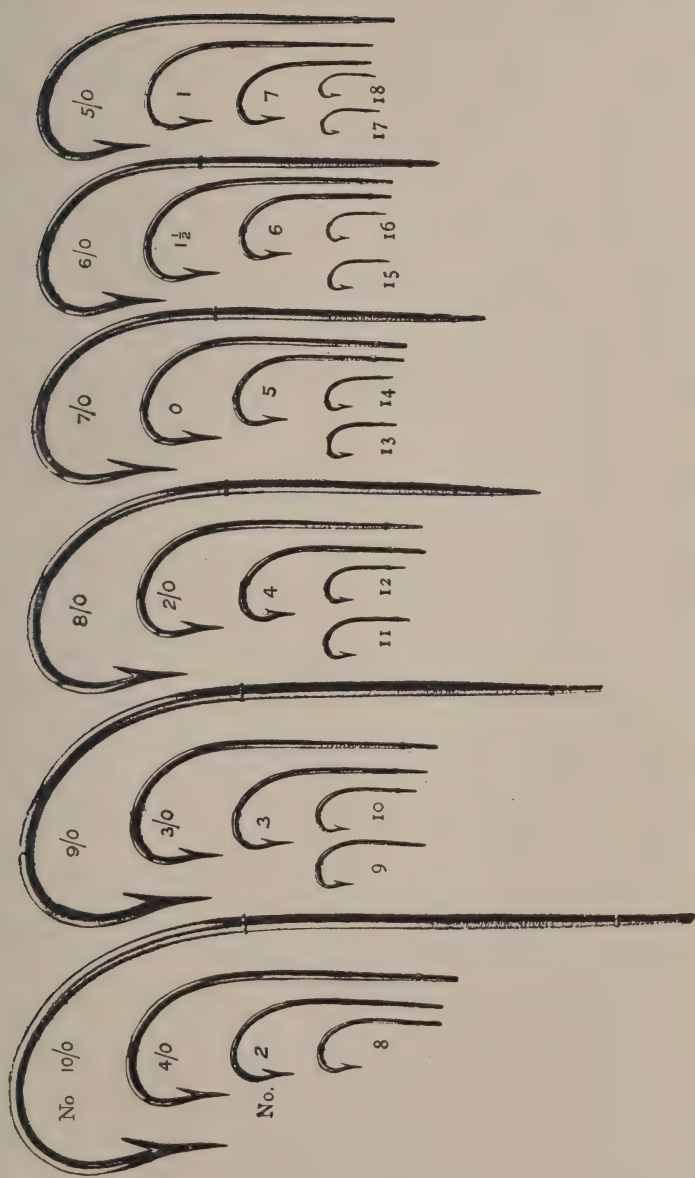
Having thus settled the colour to our mutual satisfaction, the next question is the size of the fly. Here, again, it is *quot homines tot sententiæ*; and here, again, I have my own ideas, and will submit them to your judgment for what they may be worth. Salmon flies are

generally supposed to differ in size with the size of the water, the finer flies being used in the finer water, the larger in the heavier water and larger rivers. The same ideas are carried into Mahseer-fishing by salmon fishers. Accordingly I have seen Mahseer flies of all sizes from No. 3 Limerick to No. 10/0 Limerick, the latter being nearly as big as a swallow. Indeed, I have heard of an angler who, having tried his fly in vain, had given it up, and, taking up his gun by way of diversion, shot a swallow, which fell into the water. To his astonishment there was a big swirl and the swallow disappeared. Of course he shot another swallow, baited and fished with it immediately. It, too, was taken down, and he landed a Mahseer. What the weight was I do not know. On the other hand, I know an excellent fisherman who uses always a No. 3 Limerick hook. My own fancy is to have three sizes, No. 1/0, 2 and 3, of which I more generally use No. 2.

I am quoting sizes from my own scale annexed, and I would beg the reader's special attention thereto in order to save him from disappointment. In my first edition I quoted from the scale given in Francis Francis' "Book on Angling," overlooking the caution which he gives, and which I may as well quote :

"Hooks are varied so much in size, not only by different makers, but even by the same makers, and the numbering and lettering becomes so troublesome and complicated, that I have given a scale of Limerick hooks of sizes numbered for reference, as the easiest and simplest mode of expression."

The value of this caution I learnt to my cost in this wise. Having planned a fishing trip with certain friends, I wrote to England for flies for us all, quoting Francis Francis' numbers, but not saying that I quoted from him. In consequence out came the flies beautifully tied, just as ordered, but all on hooks of sizes that were useless. Francis Francis' Nos. 11 and 12, which I was ordering for Carnatic Carp, would have been Nos. 5 and 6 on my then scale, whereas Nos. 11 and 12 on my scale were perfectly useless, and that was the scale that came. What was to be done? There was no time to write again, and we were all too busy men to tie flies for ourselves. We had not the time. What was to be done? My friends had relied on me, and . . . well, it was very vexatious. I had to look about for a likely native, and a friend and I taught him, and so we got our flies just in time after all.



SCALE OF LIMERICK HOOKS.

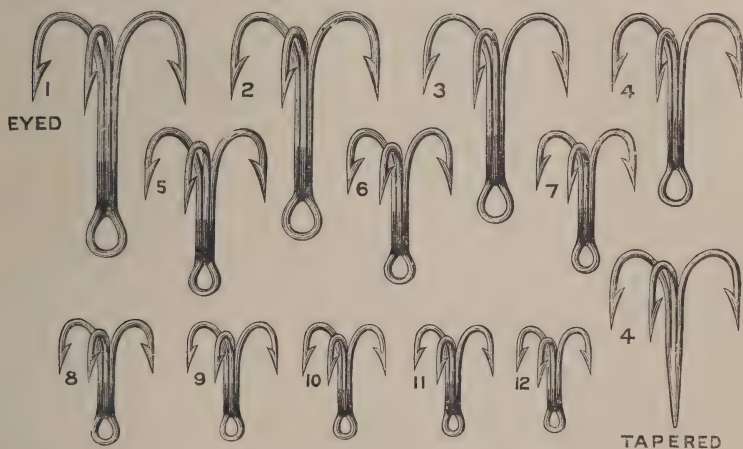
But it was very nearly being a worse disappointment. In ordering flies, therefore, be sure to quote, not only the number, but also the author of the number. If you take Francis Francis' number, say so; if mine, say so, and your tackle-maker will know what you want. If you do not he is not to blame if you suffer a like disappointment to my own.

But why have I given you a different scale from Francis Francis'? It is very annoying, doubtless, and I am very sorry to do anything to annoy you. Still less had I any silly fancy for setting up a standard of my own. I would very much rather have followed Francis Francis' or any recognized scale, but unfortunately his scale did not go as far as was necessary for Indian fishing; it did not give the larger sizes or the smaller ones; it only gave medium sizes, such as he wanted for his own reference only. I saw no way of adapting his numbering to that of any hook maker that I knew of because, as he says, he had started a numbering of his own.

I have, therefore, been at much renewed pains to discover a generally recognized standard of size that I could give you as the standard. But there is no such thing in existence in this planet, and nothing but an Act of Parliament can command it for you, and I am afraid we cannot run to that in time for this edition. In reviewing the second edition of this volume in 1881 the *Field* remarked on this subject, and the *Fishing Gazette* also took it up, and urged it on manufacturers; but to no purpose; the confusing multiplicity of sizings and numberings still remains. Pretty nearly every wholesale hook-maker has a standard of his own, in thickness of wire as well as in bend, and if a tackle-maker wants any particular hook he frequently finds it safer to send a specimen hook than to quote size. Especially is this the case with Mahseer trebles, in which the thickness of the wire used varies much.

And yet, perhaps, it is not so very unreasonable of hook-makers as might at first sight appear. In the case of any large firm that has been making hooks for a generation or two there is probably a large stock of dies round which the wire is bent, and a heavy outlay has also probably been made on illustrated catalogues, and it would be unreasonable to expect them to throw all this away and to start afresh. It is for the newer manufacturers to follow their scales and they do so to a great extent.

So, accepting the inevitable, I cannot do better for you than to give you the same scale of uneyed Limericks and of Mahseer trebles, both eyed and tapered, as I gave in my last edition, which I told you was held in common by at least two firms of wholesale hook-makers—Messrs. R. Harrison, Bartleet, and Co., Metropolitan Works, Redditch, who gave me my scale for the last edition, and Messrs. William



SCALE OF MAHSEER TREBLES.

(Eyed and tapered are both made these sizes.)

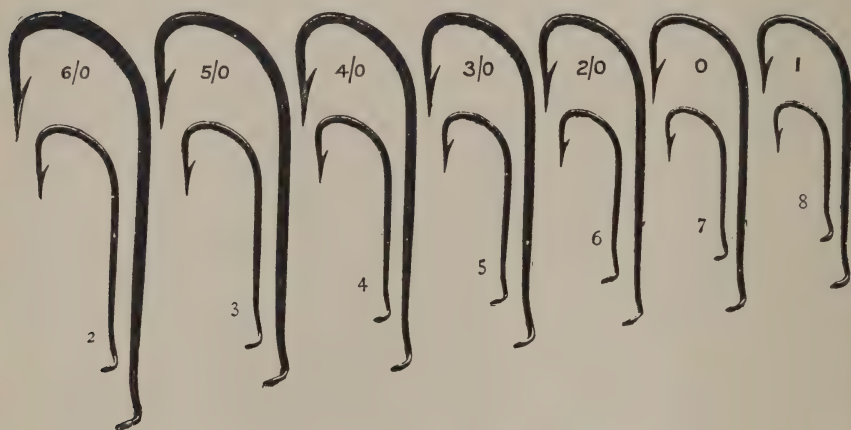
Bartleet and Sons, Abbey Mills, Redditch, who are giving me my scale for this edition, as acknowledged in the preface.

In my last edition the plate of the scale of hooks was necessarily hand-drawn, electrotyping not having been introduced in 1881, and though I had the best of draughtsmen, a certain slight modicum of inaccuracy unavoidably crept in; this time there ought to be none, the hooks being reproduced actual size by photography, and electrotyped.

Of eyed Limerick hooks there are also so many varieties that, growing desperate, I have accepted from Messrs. William Bartleet and Sons the patent Pennell eyed, because it has the recommendation that the eye is formed by the tapered end being "returned," as it is called, down the shank, instead of being abruptly finished off at the eye in a way that might, it is supposed, fray the gut. Only the larger sizes figured have the eye thus returned, and they are made of stouter wire

for salmon. The full quotation of this hook is Pennell's Limerick, with looped turn-down eyes, patent up-turn shank.

The Pennell-eyed hooks have also a little bend in the shank near the eye, which is supposed to bring the line of tension parallel with the point of the hook so that it shall pierce more readily. Whether it does



SCALE OF PENNELL-EYED LIMERICK HOOKS.

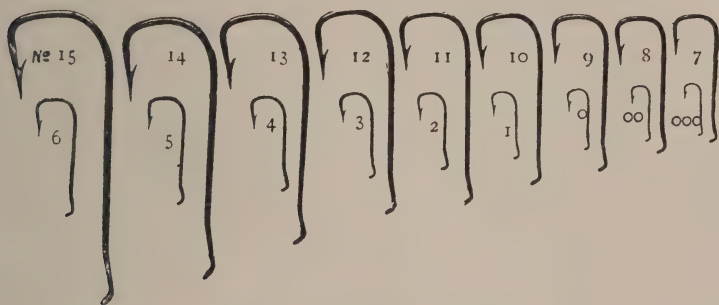
effect this or not I cannot say. I have never been able to discover any difference in this matter.

The same firm, Messrs. William Bartleett and Sons, were good enough to offer me an electro of similar eyed Limerick hooks, continued down to No. 17, but they are made of thinner wire for trout, and too light for a Mahseer. And, as you will see when you come to flies, I generally prefer a Kirby hook or a Sneck when you come to Carnatic Carp sizes, solely for the purpose of convenience in catching the eye more quickly in selecting Carnatic Carp from Mahseer flies.

In the matter of the eye of the Limerick hook, very neatly brazed eyes, which leave nothing to be desired, are produced by Messrs. J. Warner and Sons, of Redditch. And the round wire which they use is of a thickness suitable to salmon and Mahseer and of excellent temper.

I append also a scale of eyed Snecks and eyed Kirbys, as they will be useful farther on, and it will be convenient to the reader to have all his scales of hooks in one place.

The Snecks are again Pennell's turn-down eyes, up-turned shank, and the electro of them is from the firm of Messrs. William Bartleet and Sons. That of the Kirby's is my own electrotype of a card of

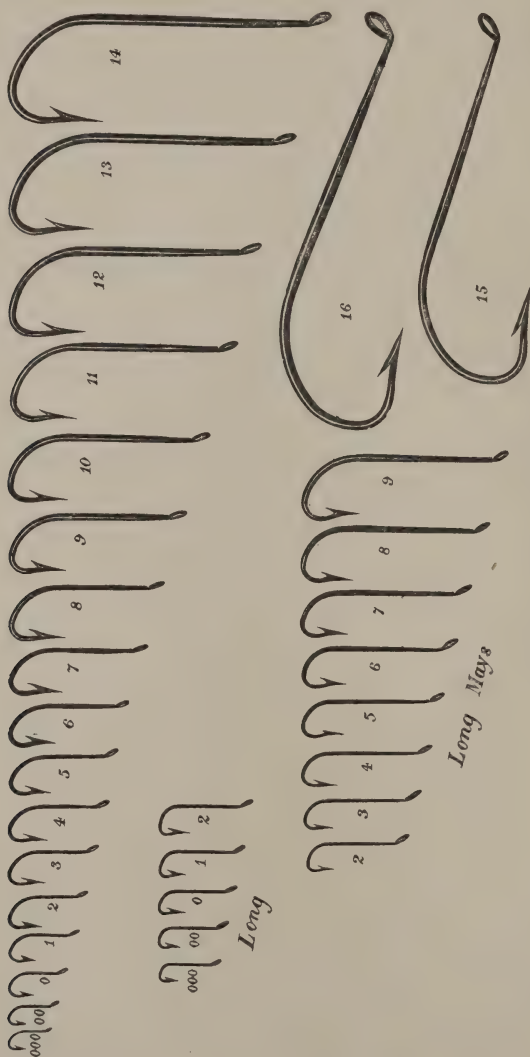


SCALE OF SNECK BEND HOOKS.

hooks specially made up for me by Messrs. Hutchinson and Son, Kendal.

So much for the size or bend of the hook. Revert we now to the thickness of the wire, a point of considerable importance to the angler, for we get Mahseer trebles made of a wire so thin that they are quickly demoralized by the Mahseer's power of compression elsewhere spoken of, and others again that run into extremes in thickness; and it would be a great thing for anglers if they could rely on their Mahseer hooks being always of the proper thickness of wire. An angler setting up a Mahseer kit for the first time, and simply ordering his tackle from a book, cannot possibly be expected to know the gauge of the wire of which the hooks should be made and naturally depends on his tackle-maker to see him right in this matter. Not infrequently he orders his tackle, or his good old aunt orders it for him as a gift, from the shop near his own home which he was known to trust to for all the trout triumphs of his youth. Not infrequently said tackle-maker, however good in other respects, has no special knowledge of Mahseer hooks, and the result is disappointment grievous to think of. Whereas if the said tackle-maker knew, he would tell his hook-maker what sort of hook he wanted for making up his tackle. Representing this difficulty to Messrs. R. Harrison, Bartleet, and Co., wholesale manufacturers, Metropolitan Works, Redditch, they were good enough to tell me and allow me to quote that the gauge of wire, Sheffield hook gauge, not the

imperial standard gauge, should, for Mahseer trebles, be three sizes bigger than that used for ordinary treble hooks.



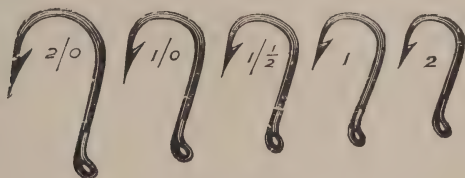
SCALE OF EYED KIRBY HOOKS.

And lastly there is the temper of your hooks. There I cannot help you. There your tackle-maker should stand your friend, for he should

order his hooks from none but the best makers. A cheap hook may do for roach, dace, sticklebacks, and such like, but to economize in hooks when such lordly fish as Mahseer are the game is wholly unpardonable.

I have, staring me in the face as I write, a treble hook that was taken with one grand rush over one hundred yards across a big river, and then sent back to me by a mighty Mahseer, curled up and twisted about like a ram's horn, with the insulting message : "There ; take your wretched hook ; it comes from the wrong shop." If the temper of the hook had been better I should not have had such an ugly reminiscence. And yet I happen to know that the tackle-maker at least was a most reliable man. It only shows what care should be taken in the making and tempering of Mahseer trebles.

For ease of reference the special Rohu hooks made by Messrs. S. Allcock and Co., Standard Works, Redditch, may also be shown here. If you use these short shanked hooks, which are on the same



ROHU HOOKS.

principle, only eyed and of thicker wire, as the short shanked roach hook called "round roach," there is no room for attaching the lead wire used with the longer shanked Limerick, and you must trust solely to the weight of the paste bait for sinking, as you will see in the chapter on Labeo. It is a question of preference. I have never tried these because I did not know of them, but I expect they will be fancied for the same reason as the round roach hooks are for roach. The wire of the round roach hook is altogether too fine for a 50 lb. Rohu, and these hooks were made at the special request of an Indian fisherman, Colonel Manners.

And now to conclude this troublesome matter of hooks. While I have been bound in common courtesy to acknowledge the civilities of those manufacturers who have kindly helped me to scales of hooks, I wish not to imply that they are the only manufacturers of these hooks, because that would not be fair to other manufacturers who are un-

known to me, and I have no desire for favouritism, and make no merchandise out of such kindly assistance. My sole object is to give the angler and his friend, *i.e.*, his tackle-maker of his own selection, definite standards of size, so that he may both clearly understand me and be able to make his tackle-maker understand him. That the angler shall on every occasion of an order look up and quote the manufacturer whose name is connected with the scale is not to be expected, nor will it serve any useful purpose, for every tackle-maker makes his own careful selection of the manufacturer he employs, ordering from one perhaps for one class of hook, and from another for another. All the angler has to do is to specify that he quotes his size from this book. His tackle-maker will then know how to do the rest. He need not confine himself to Pennell hooks if he prefers any other, or even to eyed hooks if he prefers them tapered. He has only to specify the plate from which he quotes size, and his tackle-maker will be in a position to make no mistake about giving him the equivalent size in any hook he desires.

Having thus come to an understanding, or to a misunderstanding, which you will, but at least to something definite about the sizes of hooks, I will describe the flies to be tied on them, adhering, of course, to what I must perforce call my own scale, because there is none other that I can quote.

THE BLACKAMOOR.

Tag: three or four turns of tinsel. Tail: two or three sprays of peacock harl from the end of the tail feathers that end without an eye, and are feathered only on one side. Body, peacock harl very full and ribbed with two or three turns of tinsel. Legs or hackle, commencing small, a little short of the tail end of the body, and carried up to the shoulder, hackle increasingly large and increasingly thick, and forming also the shoulder hackle, which may be full. For this use the tip end of one of those tail feathers of the peacock that ends without an eye, and that has harl on one side only, as those are much the brightest, and of a convenient length for the larger flies; for the smaller, the feathers taken from the back of the peacock may be substituted. Wing: the glossiest, deepest black procurable, *e.g.*, the black crane, the raven, the glossy blue-black feathers of the magpie's tail, with a sprinkling of the

same peacock harl from the eyeless tail feathers to make it shiny. In the smallest fly on No. 5 Kirby the almost black blue from the wing of the mallard or magpie may be preferred to simple black.

For Mahseer I use 2/o and 2 of my Limerick scale, and more generally No. 2. Some use 6/o and 7/o; and one excellent fisherman I know delights specially in No. 3. But I think 2/o and 2 are your best sizes, especially the latter, and that if you want anything bigger than 2/o you should use a fish bait. For Carnatic Carp the same fly on No. 5 and 6, my Limerick scale, but more generally No. 6, for the tail and first drop fly. For the second drop, the same just a size smaller. It is convenient to have it tied on a different sort of hook so that it may catch your eye quickly, when selecting it for the drop fly, so, say No. 9 Kirby. This last *may* be tied on a single salmon gut, but it and all others are the better for being on eyed hooks.

THE COCK-O'-THE-WALK.

Of this fly all that K. says is, "By far the most deadly fly—indeed the only one that appears to tempt them—was Madras jungle cock feathers in the wings: if with silver body all the better." Say the same size as for Blackamoor.

THE SMOKY DUN.

This fly is of one colour all over, a smoky dun colour, the colour say of the smoke ascending from a damp wood fire, a dusky fisherman's blue or ash colour with just a perceptible touch of light dull yellow or dun in it. Wings and body the same, with a tag and three or four turns of silver twist, and a tail of peacock's back feather. Size the same as for Blackamoor.

For Mahseer I fish with a single fly as for salmon; for Carnatic Carp with a collar of two or even three flies as for trout, but a collar of single salmon gut.

For the benefit of those who are newly compelled in India to tie their own flies, I may mention that the hook of all salmon or Mahseer flies will of course be tied, not on single gut, as in the case of a trout fly, but on stout salmon gut doubled, so as to leave at the head a short

loop, between a quarter and an eighth of an inch in length. The object of this is to give the gut stiffness, to prevent it from constantly doubling under the weight of the hook, and thus fraying, and eventually giving way, close up to the hook. The precaution is necessary in the case of salmon flies because of their weight; and when the fly is large, treble gut also is thus looped instead of single gut. But it is simpler to use eyed hooks.

Hooks draw very much, however, in India, because the great heat dries the wax and shrinks the gut, and as a consequence hooks not freshly tied are very liable to draw. The precaution should therefore be taken of tying a knot in the gut laid against the shank of the hook; when it is covered with dressing it will not show.

Fishing with a good fisherman, the hooks bought by him from Messrs. So and So all drew, and he thereon condemned all So and So's tackle as cheap and nasty. But all my English flies bought of the best tackle-makers in several directions in England for trout-fishing, and taken out to India, all drew, dozen after dozen, at once. The moral is that the best whipped flies and hooks will draw in India, and eyed hooks only should be used. The aforesaid fisherman came to this conclusion also on subsequent reflection. But when tying flies on eyed hooks we found that the whole body of the fly turned on the hook and slipped down. To prevent this put a little varnish—the merest touch—on the shank of the hook before tying.

Fish with the fly for Mahseer, just as you would for salmon; that is to say, that if you are a salmon-fisher I can give you no advice, you are sure to follow your practice. But if you are not, I may as well mention that the general idea is, that you should not draw your fly with a steady pull through the water, but with a succession of little jerks, with slight pauses between, so as to give it a shrimp-like motion, the theory being that with every jerk the feathers will be compressed against the hook, and with every pause they will spread out again, thus making a greater show, and giving an appearance of life to the fly, an appearance of kicking out for a swim. That is, I believe, the theory and the general practice, but I may be allowed to add I do not believe in it. I believe the constant twitching only disturbs the water, and tends to frighten the fish, and the uneven motion of the fly increases the risks of the fish missing your fly when he rises at it. My way is to be careful to throw a perfectly straight line, and then to keep it just taut and no more,

drawing my fly steadily and as slowly as possible, sometimes not drawing it at all, but letting it swing round with the stream, varying the throw and the draw so as to cover all likely water.

Mind you do not pull too fast. Many a fish will not be troubled to rise at a fly that passes him in too much of a bustle. Possibly it may have passed him before he has well seen it, or even if he has seen it, it is in too much of a hurry for him ; he is not inclined to rush after it and scramble for it with his next door neighbour, who is just as wide-awake as he is. Be that as it may, work your fly slowly : more fish are killed thus than by quick fishing, and less fish rise short.

And as to that much disputed question, the striking of a Salmon or Mahseer, whatever rule you accept in one case is equally applicable in the other. My plan is to strike as quick as lightning with a trout, but with a Salmon or a Mahseer, not at all. If your line is thrown straight and always kept taut, as it should be, you will feel a Salmon or Mahseer, and no mistake, when he has your fly well in his mouth ; you need not watch the swirl, as for a trout, you will feel fast enough if he has caught your fly or missed it, and if you feel him then "belay there, belay," hold on to him hard enough to drive the hook in well past the barb ; hold on, not by touching the line, but by raising the top of your rod, and making him bend the rod as much as you safely dare. He will do the rest for you in his violent efforts to break away. There is no occasion to strike with a jerk as for trout or small fish. If you do, the chances are you will be just too quick for him, and will pull the fly out of his mouth ; and if you do that you frighten him, and he will not come again, which he might do if he was not conscious of anything but having made an ass of himself, and missed a good thing. Remember, also, he is taking it unconsciously and leisurely, not in a hurry to catch hold of it before you shall snatch it away. In short, hold on to him when you feel him and not before, just as you would to a stumbling horse. But to do this properly you should not only have no slack line, should not only be just feeling your fly with your rod top, as you just feel a horse's mouth with the weight of a finger, and no more, so that you are keeping up communication with your fly, and are in a state of constant preparedness to act when called upon, but the point of your rod should be held almost at a right angle to the direction of the line, so that the fish when taking the fly, and striking himself by his weight, may do so against the full play of the elastic rod. If the rod is held

with the point towards the fish he gets a straight pull on the line direct from the reel, with no spring to ease off its suddenness, and the result is in most cases a break, either of tackle or hook-hold.

The advantages of the non-striking principle are clearly seen in spinning. How often does a fish miss your bait, and if you do not pull it away from him with a jerk by striking, go at it again. No doubt it is hard to keep cool in the circumstances, for "it gives one quite a turn" to see a big fish roll over your bait, with every appearance of having taken it, and it is almost an instinctive act to strike. But it should not be done. If he has taken it, it will be unnecessary, for his weight will both hook him and tell you. If he has missed it, it is quite a mistake to jerk it rudely away from him, and it will only put him out. To exemplify the advantage of not striking, I may mention a $6\frac{1}{2}$ lb. Mahseer coming up at my spinning bait, and turning over as if he had taken it. As I did not feel him, however, I pulled steadily on as if nothing had happened. He immediately turned and rushed at it again. Again he missed it, and my little bait went spinning demurely on, as if there was no such thing as a Mahseer in the river. Round he turned and went at it the third time. The line tautened, and virtue was rewarded. I felt all over just like little Jack Horner felt, "what a good boy am I." The thing occurs daily, and, for my part, I cannot understand why people dispute about whether or not you ought to strike a salmon. It is clear to my mind both that you need not, and you should not. With trout and small fish, it is quite another thing. The *rationale* of the matter will be found further discussed, however, in the Chapter on the Carnatic Carp.

I may add, that the salmon fly has yet another redeeming point, over and above those mentioned in Chapter IV. Though, in my opinion, you catch fewer Mahseer with the fly than spinning, still I think you have a better chance of a variety of fish with the fly, than with a small fish. Other fine carps more or less like the Mahseer have much smaller mouths comparatively, and cannot therefore readily take the same sized fish-bait, as the Mahseer. These take the fly better, and as a consequence do not feed so much on fish. But they must have a chapter to themselves.

Advocates of the fly also say that, in small streams, containing only small Mahseer of 5 lbs. and under, the fly is more killing than the



spoon. But I confess that I should put it a little differently, I should say that a small hog-backed fly spoon of $\frac{3}{4}$ of an inch in length, and so light that you can throw it much like a fly, is the more killing in such waters, though the fly is pleasanter to cast. Most of the Indian carps too, when they grow large, become predacious enough to take a small spoon of this size. The illustration is the exact size.

CHAPTER VIII.

GRAM-FISHING FOR MAHSEER.

“The pleasantest angling ’tis to see the fish
Cut with her golden oars the silver stream
And greedily devour the treacherous bait.”

SHAKESPEARE.

THERE is another way of fishing for Mahseer practised at Jubbulpore, which has attractions of its own for those whose lot is cast there, but of which I have no personal knowledge. I will therefore extract from the *Asian* of 12th October, 1880, the following letter kindly written by W. T. F., together with a suggestion by T. A. B. in the same paper, under date 9th November, 1880.

I may first mention, however, that the *Field* records that the late Major Geoffrey Nightingale caught a Mahseer of 40 lbs. in weight in this way on single gut, and a single scale of it measured $2\frac{5}{8}$ of an inch in diameter in a life-size engraving in the *Field* of 9th October, 1869.

I may mention also that I have tried the same way of fishing very carefully, and have also tried it with what seemed to me a more natural bait, the fruit of the banyan (*Ficus Indica*), which I used in large quantities, but on every occasion it was a signal failure; from which I gathered that this style of fishing is probably confined to localities in which the fish have been thoroughly educated to it. So I proceed with my quotations from the pens of men who have practically tested it where the fish are so educated:

“The mode of fishing for the Mahseer in the Nerbudda, near Jubbulpore, being peculiar to that place, will no doubt be interesting to some readers of the *Asian*.

“I think that is the only place in India where parched gram, called in

Hindustani *chabena*, is used as a bait ; at least I have not heard of it at any other place. The queer thing about it is that not only is the gram the best bait, but it is the only bait, except dough, which will catch fish. I suppose they have been educated to like gram, and gram they must have, and nothing else. I have tried one thing after another—flies, minnows, frogs, beetles, both natural and artificial, dead and alive, as well as spoons, but the fish will not look at any of them.

“Jubbulpore was my first station in India, and having been accustomed to salmon-fishing in the north of Ireland, I was delighted to find that I could still follow my favourite sport in India.

“The river is very easily got at, being only about five miles off ; but as it is necessary to procure the bait before proceeding to the river, I think a description of it ought to precede that of the river.

“The simplest way to get the gram is to send to the bazaar for half a seer of fried *chabena*. I have often tried to parch the gram myself, and though I have watched the *bunnias* doing it I could never succeed. It is done in hot sand kept continuously moving to prevent it being burnt, but as it is procurable in every village of any size there is no use trying to make it oneself. When procured the gram is seen to be loosely covered with the cracked outer shell ; this has to be removed, and then the gram appears of a yellowish-white shiny colour. A hole has now to be drilled through it, large enough for the gut and shank of the hook to pass through, as the gram is very soft (it can even be crushed between the finger and thumb) ; this is very easily done with a fine brad-awl, but as a brad-awl is very liable to break it, I had a special instrument made for the purpose. This was simply a spear, the size of the head of a pin, very flat and sharp. Being flat it allowed the particles, as soon as cut away, to fall down, which the brad-awl did not, and thus prevented the gram from splitting. Several of the grains will be found already split, and it is very important to pick out only the perfect ones, as the more perfect they are the longer they will remain on the hook. A lot of these ready bored must be provided, say a match-box full, as they get used up very fast, for as soon as the gram gets sodden with water, which it will do in five or ten minutes, it breaks off and another has to be put on. This is the one great drawback to gram-fishing, for as each grain has to be threaded on the hook, and not forced over the barb, it is necessary each time to remove the hook, and having threaded on the gram to replace it on the casting line. As this occurs sometimes after one or two casts, it becomes a nuisance, and to lessen it as much as possible I always arranged that, while I was fishing, my servant stood behind me with another hook ready threaded with gram. I thus lost very little time removing the old hook and putting on the new, but even this dodge is only a slight improvement, and the old nuisance remains. The only real remedy is to use artificial gram. I have made this for myself by using a very white hard wood (I have forgotten the name), and after carving out the grain of gram, covering it with a thin coating of

shellac varnish ; this gave it the slight yellow tint of the natural grain, and also prevented it from getting dirty and soaked with water. I found I was just as successful with this as with the real gram, but as it used to take me hours to make a single grain, and that even then only every third or fourth one was at all like the original, I thought the game not worth the candle, and soon reverted to the natural gram. No doubt if Farlow* or some other tackle-maker could be induced to make them it would be a boon to fishers at Jubbulpore.

"Having got the bait we now go to the river and get the tackle ready. For a casting line I used double gut, twisted just enough to keep the strands together : the hook also was tied on double gut, but the loop for joining it to the casting line must be tied with silk, not knotted, otherwise the knot would not pass through the hole in the gram. For the hook I used a No. 7 Limerick, or the same size Sneck bend. The size just held the two grains of gram, and was not too heavy to prevent it from floating, which it did naturally on account of the lightness of the gram. I think I preferred the Sneck bend to the Limerick ; the bend of the latter hook is very sudden and it broke the grain, but the former being square the two grains fitted comfortably on it ; they also could not slip over the barb as they sometimes did with the other hook.

"To make a bag a man had to be sent a day or two, or even more, beforehand to bait the runs. This he did by occasionally throwing in a handful of parched gram at the head of the run. This floating down the river attracted all the fish for a long way down, and in a short time they had all collected in the pool, the biggest ones near the head of the run. Of course the first throw you made into this you hooked a whopper, but after taking two or three out the rest got shy and would not come again till next day. You could always get fish, and big ones too, without baiting the runs, but not so many as if the run had been baited beforehand.

As I said before the nearest part of the river, and the most accessible place, is about five miles off, where the Nagpore road crosses it. It is called Goari Ghaut, and as there is a pukka road it is an easy ride or drive. The ghaut itself is a good place to fish, as the fishes are regularly fed there by the priests of the numerous temples on the bank ; but though there are a lot of them they seldom run bigger than one or two pounds in weight. The Brahmins never once objected to my fishing there, and I think the rice and other grain is thrown into the river, not so much to feed the fishes, but rather as a votive offering to Mother Nerbudda. However I soon got tired of catching tame fish, as these practically were, and went up and down the river looking for new places.

"I used to get two dug-out canoes and tie them together with planks

* It would never pay an English tackle-maker to make this imitation for one single locality, but natives being adepts at carving at very low charges, possibly some local tackle-maker like Luscombe might get it done.

placed across; this gave one a seat, and also prevented the boat from capsizing, which a single dug-out is very liable to do. In this way one could quickly drop down the river, fishing all the likely places on the way, and with four men to paddle it did not take so very long to get back again, though of course there was a strong current to be overcome.

"About a mile below the ghaut the river narrowed considerably; a hill jutted into it, forming a deep pool on the inside, and a splendid run at the point of the rock. I got the best fish I ever caught in the Nerbudda in this run, and many a one I have pulled out of the pool using a large hook and a lump of dough. One day, I shall never forget, I had successfully stalked a large fish I had seen rising at the very point of the rock, and having landed him after a prolonged fight I was very proud of myself and sat down to breakfast, previously changing the hook and putting on an enormous lump of dough. I threw this into the deepest part of the pool, and putting my rod down on the ground I began my breakfast. In a short time there came a slight tug at the rod, and again all was still. I thought the fish had failed to hook himself and finished my meal. But on taking up the rod I found there was a big fish on. I had to follow him across the most break-neck places and was several times in danger of cutting the line, but I landed him at last. These were the two largest fish I ever caught at Jubbulpore—12 and 10 lbs. The average size is only 5 or 6 lbs., though I believe the fish in the river go up to 30 lbs. or more. The Nerbudda is a very large river, though nothing compared with the great Punjab rivers, and of course the fish will not run to the same size. I was greatly elated at getting these two fish on the same day.

"About two miles below Goari Ghaut there were some large islands in the middle of the river, and the runs on each side were very good. There were good places all down the river; and at Behra Ghaut, especially just below the Marble Rocks, I was very successful.

"The Marble Rocks are about 11 miles from Jubbulpore, but as there is a pukka road almost all the way one can easily go out for a day's fishing by sending on a horse half-way. There is also a dâk bungalow there, and three days' leave can be spent very pleasantly. I was never tired of looking at the beautiful cliffs, which give the fishing there a peculiar charm; at home half the delight of trout-fishing is the lovely scenery one has to pass through; but in India the wide, dry, sandy, or stony bed of the river sadly mars the beauty of the scenery, and it is only in the rainy season, when the river is full, that it can be appreciated.

"The river enters the marble chasm by a fall of 30 feet, and once while fishing above it I hooked a fish within 40 yards of the brink of the fall. It was very exciting trying to keep him from rushing down, and I don't think I ever played a fish so hard; it was a terrible strain on my rod and tackle while it lasted. There is a railway station for the rocks, but unless you could interest some of the railway officials in your favour, and get the mail train stopped there, the station was seldom used, as the other trains

did not suit. I once went down by train to where the railway crosses the Nerbudda, about 20 miles, as well as I can remember, from Jubbulpore; there was very good fishing there. Up the river above Goari Ghaut there were lots of good places; one road went along the Rifle Range and let out at a place where there was a village on the opposite bank. I cannot now remember the name of the place, nor have I any map by me to refer to. There was always a ferry-boat waiting on the near bank to carry the villagers across, and this could be hired for fishing from.

"About four miles out on the Mandla road was the Gaur Nuddee, a small river flowing into the Nerbudda. This river was very well stocked with fish in the early part of the cold weather, October to December; after that the water got very low, and the big fish retired to the deep pools, whence they could not be enticed. The road crossed the river by an Irish bridge or causeway, and below this, and fishing from the causeway, I have got many a good bag. I don't think the fish ran bigger than 3 lbs. or 4 lbs. To have good fishing one had to arrive there at daybreak: and a sharp ride from cantonments on a cold frosty morning in December was invigorating if not very pleasant. Clouds of steam were rising from the stream at this hour, showing how warm it was compared with the air, and it was quite a relief to wade in and warm one's perished feet. As soon as the sun peeped above the horizon your rod and tackle should be ready for the first cast, and if you did not have some fun for the next two hours you had had luck. There were several good runs up the river, but the causeway was the best place.

"Where the river joins the Nerbudda was a favourite place for fishing, but it was not very easily got at, there being nothing but a path through the fields; while proceeding there in the early part of the cold season, just after the rains, and before the ground had become dry and hard, I have often had to turn back. It is calculated to make you angry if, after having sent your rod on in advance to a certain place, you find you cannot get there on a horse, but could fish some other part of the river if you could only recall the man with your rod. It is humiliating, to say the least of it, to have to ride back the five or six miles, and when asked 'What luck?' to have to reply that you could not reach the river.

* * * * *

"I took a great fancy to fishing with gram, in spite of the nuisance of having to change the hook so often. The baited hook is not heavier than a salmon fly, and the fishing approached very closely to fly-fishing. By throwing in a single grain of gram every few minutes, and letting it float down stream, you could tell at once when a big fish was on the feed, and where he rose. I think that stalking a particular fish, which you see rising, is much greater sport than flogging a river on the chance of a fish coming to you: you had to throw the gram just as nicely, and let it fall just as gently on the water over a rising fish as if it had been a wary trout, and you exult much more after landing the fish, which perhaps you have

been watching for a long time, or have failed to catch on a previous occasion.

"When at Poona some years afterwards I often asked whether there was any fishing in the neighbourhood, but invariably was answered 'No,' that there were lots of fish but no one could catch them. The river at Poona is a good size and I thought I would try and get some of the fish which I made sure were in it. The first two days I tried everything I could think of as bait, but failed to touch a single fish. The third day, a happy thought, I determined to try the old Jubbulpore plan of parched gram, and very successful I was, that day getting several fish, one 11 lbs. in weight. They were not Mahseer, but some kind of carp, very deep in the belly compared with the length. I did not keep the secret to myself, and many good bags were afterwards made. The fish did not give much sport like Mahseer, but after being hooked used to sulk in the bottom of the river, and I was three hours landing the above 11-pounder.

"W. T. F."

* * * * *

"I have read with much interest the letter from 'W. T. F.' about fishing near Jabalpur. I, too, have fished in the Nerbada, and adopted the plan mentioned by your correspondent: indeed it is about the only way in which you can catch fish in this river. 'W. T. F.' mentions that he found some difficulty in getting parched gram to stay on the hook: what we used to do was to soak some raw gram in water, till it was soft enough to pass a stout darning needle through. We would then thread as much bait as was required on to the common country thread sold in every bazaar. The bait was rolled up in damp cloth, and all we had to do was to take off a grain or two when required for the hook. Let 'W. T. F.' try this plan and see how it succeeds.

"T. A. B."

CHAPTER IX.

LIVE BAIT FISHING FOR MAHSEER.

“Thus have I cleared the field of my worst foe!”

THE SPANISH STUDENT. Act II., Scene V.

ALL the previous chapters have treated of fishing for Mahseer in clear water, for, in the matter of fishing for them in discoloured water, anglers of any Indian experience have hitherto been agreed that it was simply useless. Whether from melting snows, or from heavy rainfall, or irrigation drainage, a flood or discoloration in the river was considered an insuperable bar to all fishing. There was nothing for it but to pack up one's tackle, and give it up as a hopeless case. And thus there was the great objection that Mahseer-fishing was confined to clear water, that a change of weather might at any time make the fishing trip a complete failure and disappointment. But anglers will rejoice to hear that there is yet a way in which this worst difficulty may be overcome, yet a way in which the mighty Mahseer may be taken even in the dirtiest water. We are indebted, and that not a little, to Colonel J. Parsons for the discovery; so I shall, with his permission, give it in his own words, as kindly communicated to me. He writes, under date 8th July, 1878:

“A friend has lent me your book ‘Rod in India.’ I observed that you invited hints on fishing. I am not aware whether you still seek them or not; however I think I may as well tell you of my way of fishing when the river becomes thick. It is not original, but merely an improvement of a native method I saw practised many years ago at the Jumna, in the hills between Mussoorie and Simla.

“I fish with live bait picketed, as it were, in the river; the bait may be any size up to $\frac{1}{2}$ lb. in weight (as Mahseer don't doubt them ‘sardines’ if they look large). A bullet is secured to the line about $2\frac{1}{2}$ feet from the live

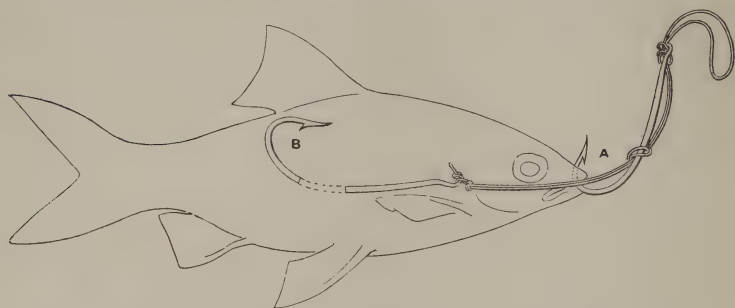
fish, to give him room to swim about if he wishes, and then the end of the fishing line, with bait and bullet, is deposited in any likely place in the river, and the rod is 'set' on the bank, with reel free to run when required. The best place to put in your live bait is in one of the eddies near the head of a rapid; a favourite place is in the backwater, of two feet or so in depth, between two channels of a rapid. In the deep pools Bowális,* a fresh-water shark kind of fish, and eels (I once caught one of the latter 18 lbs. weight in this fashion) are likely to take the bait and give trouble. It is not improbable that Mahseer can feel† about well with their leathery mouths, if they cannot see in heavy water. Anyhow the above is a very successful way of catching Mahseer when the water is too thick for spinning or a fly, for, with close upon thirty years' experience of fishing in India, I have invariably found that neither minnow nor fly are of any use in heavy water. I never lose time myself in trying them; but it is difficult to persuade others till they have tried their own patience in the matter. I have caught very heavy fish with live bait thus used, and this is not surprising, for, as you mention, Mahseer are bottom feeders—and I have, moreover, caught nearly as many in a day in muddy water with live bait as I have in bright water by other means. I mention one instance only. Major S. . . . fished a few miles up stream from Naoshera on the Towi River (which is met on the Bhimbur route to Cashmere), and, though a really good fisherman, could not get either run or rise; before his return, in less than four hours' time, I had caught and landed five good fish in the pool close to our camp; the water was like pea soup, and the fish were all caught, as above, with live bait. I might probably have caught double the number if I had set a couple of rods. I have caught many large fish varying from 10 lbs. to 50 lbs. in this way, and what more could be wanted from the river, when trolling or fly-fishing is impossible? The bait, if neatly put on, and not pulled about frequently, will live for an indefinite period. I have generally found his existence shortened very rapidly by Mahseer.

"I give you a sketch of the bait. The body hook is inserted while the point of the *shank* is held next to the tail, and then turned over so as to let the shank lie on the side of the bait. The bait, of course, must not be curved. The mouth hook is put in last. Attach the bullet with a piece of thread to the line, so that you lose bullet only in case of a

* *Wallago attu* of Chapter XIV.

† I should incline to the conclusion that it is by their sense of smell that they are mainly guided, for a live fish leaves a scent under water as much as a live animal does on land,—witness the way in which an otter will follow the scent of a live fish under water, as I have seen. I think that fish are also guided mainly by their sense of smell in taking bait on night lines, for it is very certain that fish cannot see as well at night as they do by day. Native fishermen know this well enough, and accordingly spread their nets at night.

foul. The bait itself rarely fouts. The curve of the side hook stands out at right angles to the side of the bait, so that it may speedily act when the bait is taken. The hook at A is passed through the thin flap in the



upper lip. The dotted line at B is where a bit of the shank of the body hook is under a bit of *skin* of the bait. The points of both hooks are well exposed.

"In Upper India December and January are blank months for Mahseer fishing, use any bait you like.

"One hundred yards of line is enough for any fish. K. says 200, but look at the account of his monster run, less than 100 yards. The fish was 4 feet 5 inches. I have caught 4 feet 6 inches that never ran 50 yards.

"This method of fishing may occasionally succeed when the water is clear, particularly in rough parts, but never so well as in thick water; indeed, it is only then excusable as a substitute for fly and minnow."

Colonel Parsons kindly sent me at the same time a pair of hooks tied as he uses them. They are "peculiar-eyed Limericks," answering to No. 6/0 and 4/0 on my scale of the ordinary tapered Limerick hooks, the larger one being the side hook, and the smaller the lip hook. They are mounted in the simplest way possible on a single piece of salmon gut, and he writes that the mounting of them took him just 45 seconds, which, of course, is a great recommendation to any man who is pressed for time, and the majority of Indian officials have very little of that commodity to spare.

I am informed by a tackle-maker that these eyed-hooks were at one time tried for salmon flies, but were condemned on the ground that the iron cut the gut. I presume it was when laid by for months in the fly-book that they rusted into the gut, for I cannot see how they can cut the freshly-tied gut in a single fishing trip, provided care is taken, by thoroughly well soaking the gut before tying the knots, that

there may be no crack at the knots. I always use eyed trebles myself in spinning, and never found this objection. Colonel Parsons writes :

“Being, like yourself, frequently pressed for time, I have of late years almost discarded the use of silk and wax in mounting bait and spinning casts. On artificial minnows I use eyed strong double hooks, which are mounted in a ‘twinkling ;’ and for spinning natural bait, or securing live bait, I use eyed single hooks.”

There is no doubt in my mind that, for spinning tackle in India, eyed hooks are much to be preferred to bound hooks, as there is much greater danger of losing a fish from the hook drawing or the binding being rotten, so rotten as to rip right up, proclivities too common in India, than from the hook cutting or rusting the gut. Besides, the danger with the binding is not noticeable, till a big fish comes and finds it out for you ; whereas, any rusting of the gut is easily perceived, and as easily remedied. Many a man will not hesitate to snip off and re-knot a doubtful piece of gut, when he would think twice of looking out silk and wax and re-binding it.

Colonel Parsons’ live bait flight of hooks is mounted as follows :—A single length of good stout salmon gut being doubled in the middle, so that the two ends lie equally side by side, a common knot, such as one ties at the end of a whip lash, is tied at the end of the gut, so as to keep the ends together, and to keep the knot that follows from slipping. Close above this is tied just such another knot, but this time through the eye of hook B. The necessary space being left, just such another knot is tied round the shank of hook A, and another through the eye of hook A. The knots on A can easily be slackened and worked further from or nearer to B, so as to accommodate the intervening space to the size of the bait. With reference to the bait, Colonel Parsons writes :

“Six inches in length is a good size for a Mahseer, but you will observe that if you can’t get the size of bait you like, the small, or mouth hook can easily be shifted up or down to suit a larger or smaller bait. I have frequently used a bait 1 lb. in weight, and occasionally as much as 1½ lb. ; the fitting up of a mount to suit him is only the work of a minute, as I have larger eyed hooks.

“I am afraid you may consider me somewhat of a barbarian,* but press

* Far from it. The contrivance is neat and simple, and I doubt not my readers will feel as much indebted as I do to our friendly mentor.

of time and the not over susceptibility of the Mahseer in rough or thick water, induced me to these inventions. In slack clear water of deep pools the Mahseer is a very wary wight, and I advocate care, and as neat tackle as is consistent with the great strength of a large Mahseer, to effect his capture. How very seldom one gets two large Mahseer in one day out of a clear slack pool? No. 1 may succumb to a minnow skilfully worked by a knowing hand well out of sight, . . . but No. 2 betakes himself to cover for the rest of the day, at any rate whenever he sees anything in the form of a line or cast."

In a subsequent letter, Colonel Parsons writes :

"I have paid a short visit to Tangrot (the proper name is Dhangrot). I found both Jhelum and Poonch flooded with snow-water and thoroughly discoloured, instead of the crystal streams of the early year. The bungalow book informed me that the locality had lately been visited by a good fisherman, who, the boatmen informed me, had worked hard at spinning with spoon for Mahseer with blank results, being helpless in such a state of affairs. I anticipated the same at this time of year (17th March, 1880), as both rivers are fed by the Himalayan snows, now melting daily, and had brought a casting net for live bait. The result of my mode of fishing with live bait in troubled stream is this :—

"First morning (12th March), a 12-pounder.

"Evening, lost a heavy fish by the snapping under the barb of one of Bowness and Bowness' best salmon hooks.

"Next morning (13th), a 9-pounder.

"Evening, a 19-pounder.

"Next morning (15th), a 32-pounder, length 45", girth 23".

"Evening. Lost an enormous fish (*fully* 5 feet long, and I estimate fully 70 lbs. weight), after playing him for two hours, and until he was fully exposed to view in a semi-exhausted state by the bank, at which critical period the line fouled. I immediately saw the danger and felt uncomfortable, but thought the fish was ready for landing; he, however, suddenly rallied, and by his vast weight parted a new treble salmon gut trace, and through a huge self-created wave dived into the Jhelum, not to be seen again for some time I should say. Disconsolate I embarked in my skiff to my dinner on the opposite side of the river, the fish having worked me from 5 to 7 P.M., at last in a faint glimmer of moonlight, which, by-the-bye, was not very favourable for the landing process of such a fish under a straight bank. I have no doubt he felt very weary, poor fellow, but it might have consoled him had he known how he made my biceps ache holding him up pretty tight, through runs and sulks for two hours, with a 19-foot salmon rod.

"Next morning (16th, yesterday). A 15-pounder, and in the evening

I moved from Dhangrot, well satisfied with my first visit to that far-famed fishing ground.

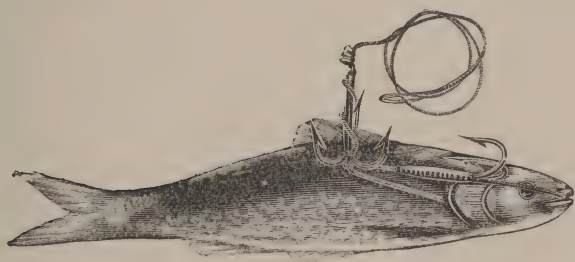
* * * * *

"I only fished a comparatively short time morning and evening. . . .

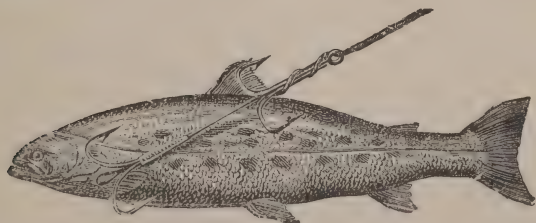
"The above fish were all Mahseer. Aggregate weight of the five, 87 lbs.; average, $17\frac{2}{5}$ lbs. Tells well for Tangrot, and also for live bait! At the same time I prefer the fly and spinners when the state of the water admits of their use, there being variety and choice of casts."

I think the size of the fish taken, much more than the number, is a very satisfactory proof of the effectiveness of the method of fishing, and it is a very great matter to have got over our hitherto insuperable difficulty, the coloured water, and we can henceforth fish at such times as well as in clear water.

The Jardine tackle is much affected in England for live bait fishing, and might be used for this. The live bait is held captive by the free



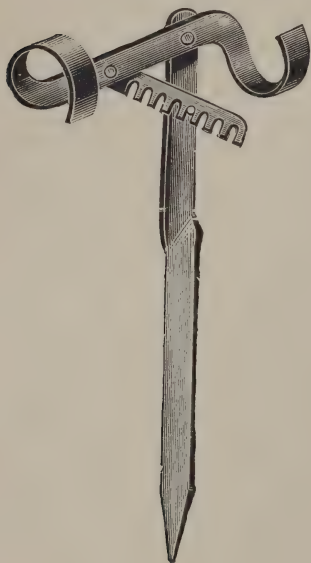
end of the straight wire in the tackle being passed in at the mouth and out at the gill of the bait, without wounding it or interfering with its



respiration, and then being hitched, as provided, the hooks are placed in position and kept there, either by elastics, or by being passed through the veriest morsel of skin. The hooks No. 8 should be special for

Mahseer, and wire gimp No. 2/0 could be used instead of double salmon gut.

With reference to other fishing, I have recommended the *Ophiocephalus gachua* or *dok* of Hindustani as a bait; but it would not do for this style of fishing, because, like the murrel, it requires to come frequently to the surface to breathe the air, and would be drowned by being picketed to the bottom by a bullet.



A friend who was an ardent pike fisherman used to set several rods with live bait in Slapton Lea, well apart, and he picketed a daughter over each with a book and a whistle. If a bait was taken, the alarm was sounded, and my friend ran to the rescue, and played the fish. If you practise this fishing with water at all clear, of course you will warn your watchman not to indulge his curiosity in watching the line or the top of the rod, but to sit well away from

the bank and listen for the whirr of the check-winch. This is a convenient way of setting your rod.

CHAPTER X.

PASTE BAITING FOR MAHSEER AND OTHERS.

“Saepe

Occultum visus decurrere piscis ad hamum.”

HORACE. Epist. I., 7, 74.

FOR fishing, as in the last chapter, live bait is not always handy, and paste is also effective. I have but little personal experience of this style of fishing, and am chiefly dependent on that of others ; but I quote from no mean authorities. The first was a Nimrod, the other two are excellent fishermen.

The best fisherman need not be ashamed of acknowledging to a liking for a change at times, and there are times when one is weary with toil, and heat, and the failure of sport in any other way. And more than once have I heard the wail of a right good brother of the angle over monsters who would only feed at night, being much too wary to be taken by any device by daylight. And it is a style of fishing that can be followed simultaneously with float fishing, extra rods being set for it while you are busy with your float. And it is not one fish only, but many that can be taken in this way. The Mahseer and other carps, the Rohu and other Labeos, the Silund (seemingly called also Sinnan), the Pangwàs and other siluroids, the Catla, and possibly others that I know not of, may be caught in this way. While experimenting for a dull interval I have myself taken a Pangwàs (*Pangusius Buchanani*) of 14 lbs., and a Chagunio (*Barbus chagunio*). Day gives the sizes of these two fish as “upwards of 4 feet in length” and “at least 18 inches,” while Silund (*Silundia Gangetica*) “attains,” he says, “6 feet or more in length.”

Mahseer are caught at the bathing Ghat at Delhi with paste bait

and hand line. The native fashion is to hold the line in the hand after taking in the slack, trusting to the fingers for following the bite.

An improvement on their method is the following ingenious plan :

"A shingly bed in the deepest pools is ground baited (not necessary) for some evenings with balls of ragee paste. The fishing is night work. I usually have three or four reels out, with 300 or 400 yards of line each. They should not be thrown out too far; the reels are planted vertically on the bank, and have an arrangement of bells to signal a fish on. The line has a couple of turns round a stone of 3 or 4 lbs. to strike the fish. I have seen these stones jerked 10 feet away into the water. The bait used is a bunch of big crabs, a fowl's entrails, or a ball of ragee paste as large as the fist. From 8 till 12 P.M., and again towards morning, are the most likely times. With a mattress, and coffee, and cheroots, one can pass the night in fine dry weather very pleasantly. I have had eleven runs in three nights from heavy fish. One cleared out with 350 yards despite every effort to stop him. The river there was about 200 yards broad, clear of rocks, but running 11 feet deep, and strong. As the reel was all but out I was obliged to call a halt, when the line went like rotten thread. I have no doubt my big fish was a minnow compared to this."

I gather from the description that there were no rods used, and therefore no means of taking toll of the fish while running out the line. Rods could easily have been used in addition, and would have added to the sport, as well as to the chances of tiring out and killing a big one.

Another method, which I have tried once, and with success, is to use a No. 1 Limerick hook, baited with a ball of paste, from the size of the thumb nail to that of the end joint of the thumb, and without sinker or float. Cast out as far as you can into the deep water below the run, and let it be carried out. When as far as it will go, and at rest, take in the slack between the rod and the bait, but leave two or three yards of slack between the lowest ring and the winch. Hold the rod, or set it as on page 142, not at an angle with the water, as that may check the first nibble, but parallel with the surface of the water, so that the slack line, carefully laid out or coiled on the ground, may run quite freely through the rings when the fish moves off with your bait taken. If you are holding the rod, with a very light finger on the line, you will feel that it is gliding out; if you have set the rod, you will see it. This is your time for striking, and in either case put your finger firmly on the line, and strike. *Habet.*

The other method is to weight the end of your line with three or four bullets, for the purpose of sinking the line, and of striking the fish when he bites. At a distance of a yard from the sinkers, and a yard or two apart, have three or four No. 1 Limerick hooks baited as above. Cast out as far as you can, set the rod at an angle, wind in the slack, and attend to other fishing till you hear the winch singing. Then chime in nippy.

I am told this last plan is effective with Rohu in the bold biting season. I should think the slack line parallel rod method, with a very light finger on the line, preferable for night fishing for big shy Rohu that will not take by daylight, though they might simultaneously be given the benefit of a second chance with the other method set near you. These big shy fish frequently come on the feed just as it grows too dark to see your float, and you might then be inclined to exchange your float for the above methods, just for half an hour or so, before yielding the field to the enemy.

CHAPTER XI.

THE CARNATIC CARP.

“Rura mihi et rigui placeant in vallibus amnes,
Flumina amem silvasque inglorius.”

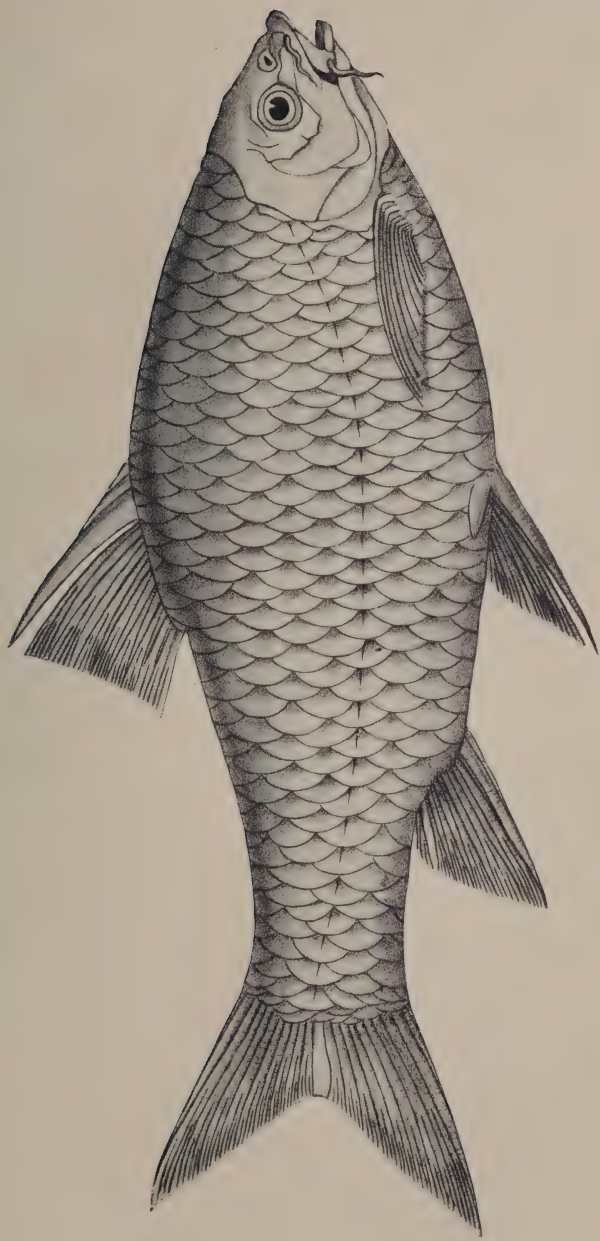
VIRGIL. GEORGIC II., line 85-6.

MAY I have the pleasure of introducing to you a new friend, *Barbus Carnaticus* (Jerdon). In view to your being better acquainted, suppose we stand on no ceremony, and anglicize the name into the Carnatic Carp.

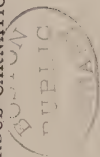
I must be pardoned this little liberty with his patronymic, for the reasons set forth below.

The Carnatic Carp, let me tell you, is not at all a bad fellow. He is not to be set aside lightly as if he was a mere carp, like the fish (*Cyprinus carpio*) commonly known by that name in England. He is much more like the mighty Mahseer, the king of carps; indeed, he has been frequently mistaken for a Mahseer, and it is for that very reason that I must lay stress on not allowing that he ought properly to be called a Mahseer. That word Mahseer has been too elastically used by fishermen. They have made it cover almost any big carp. Still, though I cannot concede that *Barbus Carnaticus* is properly a Mahseer, I ask for him a sort of brevet rank, by which, though a carp, he may be promoted above the level of the common English carp known to our school-boy days. The Indian Carps, mind you, are very different from those in England. The Indian Carps run, in the Mahseer, up to 200 lbs., as the Indian cats do to tigers, and ferns to trees (*Alsophila latibrosa*, a tree fern). Viewed thus in its proper light, it is no disgrace to be a Carnatic Carp, and his acquaintance is worth your cultivating. He runs to 25 lbs., and takes a fly.

My objection to his being called a Mahseer lies in his mouth, and



BARBUS CARNATICUS.



my reason for urging it is that the smaller mouthed Carps feed differently from the large-mouthed, and must necessarily be fished for differently; and hints for the taking of the Mahseer would only lead to disappointment if applied to the hero of this chapter, under the impression that it was much the same fish. Indeed, I know cases in point, of fishermen who confounded them, and consequently confounded their style of fishing, with the result that they did not get as much sport as if they had critically adapted their manner of fishing to the fish they sought. One of these was also no mean master of the salmon wand. But they did not vary their fishing with their fish, they used large flies where they should have used small, and small flies where they should have used large ones; and they threw a fly where they should have spun, and *vice versa*; and they sought for both fish in like places, whereas they should have chiefly tried the deep pools and gentle eddies in the one case, and the runs in the other. All this came of their thinking them both Mahseer; and as they had caught the Mahseer in such and such a way, they thought they could do so again. Now it would make me unhappy if you did the same, if you should call this fish a Mahseer, and you should apply to him all the advice given in the "Rod in India" about the Mahseer, and should consequently be disappointed in your fishing, and perhaps angry with your faithful mentor, and that, too, after all the pains taken with your education. "But why cannot you call him a Chub?" you say. True, he is more like a Chub than a Carp in his ways. But then he would not stand alone, there would be other claimants for the title of Chub, or Barbel, or Roach, or Bleak, or Dace, or Rudd, and I should only mislead you by indicating a similitude which was not close enough, and which had more than one claimant, for there are about sixty kinds of Carps in India. It is better to start fair altogether without any English preconceived ideas to be got rid of, and I think the simplest way is to take the name given him by his sponsor, Dr. Jerdon, the naturalist's name, the name recognized by Ichthyologists, and anglicize it as closely as possible. Such names are ordinarily indicative, first, of the classification, secondly, of the peculiarity of the fish in question, though they are sometimes named after friends, which naming, though it may be a kindly recognition, occasionally hard, perhaps, to avoid, is not useful descriptively; for, though the fish may be bearded and moustached, and so far be all right, still you know it cannot have two

legs and Bond Street breeches, like the owner of the name given it. In this case the name is descriptive of habitat only, and therein I sincerely hope it is erroneous, and that the Carnatic Carp may be found over a much wider area than that assigned to it by Jerdon and Day. But whether or not he is so restricted matters not from an angler's point of view, as there are other fish so like him in form and habits that he may be taken as typical of them also, what applies to him applying to them also in the matter of fishing for them. An exact description of *Barbus Carnaticus*, quoted from Day's "Fishes of India," will be found at the end of this chapter. It may aid fishermen who are naturalists to recognize it elsewhere.

Barbus Carnaticus being then simply a Carp of the Carnatic, with your leave we will call him the Carnatic Carp. Don't be vexed with me now for this formal introduction. It is just as well not to pick up a new friend too quickly. Better know something about him first. But now you know his family, we may safely proceed to a closer acquaintance, nay, even to an attachment, so to speak, by means of rod and line.

You will do very little business from the shore. Indeed, I would not attempt it. You must have a boat, and there is none better than the common basket-boat or coracle of the country. It shoots the rapids, bumps the rocks, skims the shallows better than anything else, and when you come to an utterly unnegotiable waterfall, it—the boat not the waterfall!—is very easily taken out and carried round by one man, your boatman. For this reason you should have a small one, just so small that one man can carry it. It will hold you and your boatman comfortably, and all the fish you can catch. It will hold a third man too if you want him, it will hold three safely, but as a rule you do not want a third man, for your boatman can lend you a hand with the landing-net when you want it, and a third man only lessens the buoyancy of the boat, which is not an advantage when shooting a shallow rapid. As to a second fisherman being in the same boat, it is out of the question, for there is no room to manage two fly-rods from one such small boat. Each fisherman must have a boat to himself. However, you and I will get into one boat just for half-an-hour, and you shall have a cast with my rod, till you get on terms with our new friend. I will take the liberty of supposing you are like a man I had the pleasure of being out with after these same fish, the Carnatic Carp,

a thoroughly good sportsman, good in the pigskin, good with the rifle, but whose education had, for lack of opportunity, been lamentably neglected in the fishing line, and who was pleased to place himself under my tuition therein. It was about the only flaw in his otherwise estimable character. Still, you will admit, it was a very serious flaw. However, it has been effectively remedied now, so we will say no more about it. "Caught Salmon?" I began. "No," said he. "Nor Trout?" "No," said he, "never threw a fly in my life, but I fancy I've got it in my bones." He was right. He took three or four nice little fish from 1 lb. to 3 lbs. each that very morning before breakfast, and after less than half-an-hour I had let him alone as big enough to take care of himself. Between you and me there are some men whom you could not make fishermen of, even though you brought them up by hand on cod liver oil, and weaned them on nothing but sardines and anchovy paste. But we will hope you have "got it in your bones."

Here we are on the Bawanny, an affluent of the Caverry. We have got into the basket-boat at the top of a large pool from a furlong to half-a-mile long, say 150 yards broad, and from 2 to 20 feet deep, with a grand salmon run rushing in over the rocks, and continuing some way into the pool. Lower down the pool has scarcely any apparent motion except the eddies near the shore; and the banks are steep and well above the water level, huge forest trees overhanging the margin of the river. We will begin at the top, and work down river, for the simple reason that it is hard to work the basket-boat against the stream. This is a deep, strong run, and though just the water for Mahseer, it is a little too much for the Carnatic Carp. Still, do not neglect it, for I have had big rises even in the heavy water, but try specially the edge of the run, and the eddies and backwater between two runs, and the tail of the run where it is losing its force in the deeper water of the pool; try right down till the run merges in still water. Ah, there you are! Missed him! He wasn't a bad fish either. Somehow the biggest fish are always those one *doesn't* hook.

Never mind. Stay the way of the boat, boatman, and we will try him again. There he is again. Felt him this time, didn't you, but couldn't get hold of him? You didn't strike quick enough; or you hadn't a straight line and *could* not strike home enough. But you will find out more of that difficulty when you come to fish the stiller water.

Now that the run is over, try the bank edge. In most places

along the steep bank edge, where the water is at all deep, you will notice quiet eddies, formed by the opposing forces of the stream and the backwater.* Fish there, especially when they are under overhanging trees or near reeds, always presuming that the water looks at least 2 feet deep. Kuti, the boatman, thoroughly understands, without your telling him, that he must keep the boat so far out from shore that at your longest throw at right angles to the shore you can just drop your tail fly within about a foot of the shore; commence throwing therefore, and he will soon see and gauge the length of your throw, and will let the boat go drifting quietly down the stream, but slightly staying its way, and keeping you exactly facing the shore, so that you can throw with ease, and draw your fly towards you, just as slowly as suffices to keep the line taut while it floats down the stream. And so you keep on trying fresh water every throw. If you fancy a place tell him, and he will paddle against the stream just enough to keep you stationary. If you rise a fish tell him at once, that he may keep you within reach of the fish while you throw over it again immediately. Do not wait and give the fish time for forgetfulness as you might with a salmon or trout, but throw at once, because you cannot depend on its remaining in the same place for any length of time. It may remain, and probably will, but it may roam, for it is not its habit to lie like a salmon or trout behind a stone at the bottom, but to roam about more or less in a swim. Fast in one at last! Hurrah! Back away, Kuti. Back into mid stream. Never mind whether the fish takes out line or not, back away hard all. There, now, you have deep water and plenty of elbow room, free of snags below and boughs above, and, what is of more importance still to your sport, you have drawn your fish away from his fellows, and are killing him in a place by himself, for this fish commonly swims in shoals like a dace, and it is better to disturb the rest of the shoal as little as possible. It is quite possible that you may not have disturbed the rest of the shoal at all, for it is quite possible that the fish you have, left the shoal, and followed your fly some little way before he made up his mind to take it, and you hooked him. At any rate we will hope for the best and do all we know. "'Tis not in mortals to command success, but we'll do more, Sempronius, we'll deserve it."

The wisdom of killing a fish by itself, is amusingly recognized in

* This backwater is explained in a footnote in Chapter XVIII.

the Tamil proverb that the Paddy-bird or Indian Egret never takes a fish out of a shoal, but waits till a solitary one passes. The proverb was told me apropos of a criminal prosecution. I was running the trail of a first-class plunderer, a regular tiger, amongst the poor sheep committed to my protection as a ruler. There was a very twin to him left as unnoticed the while as if I was utterly ignorant of his goings on. But lookers-on, who wanted to see justice overtake the tyrant, told me afterwards. "We understood you, Sir, you were like the Paddy-bird." And so the story came. In this, then, prudent reader, be like the Paddy-bird.

Cannot you get a pull on him at all yet? Wind him in whenever you get a chance, either from his swimming in your direction, or yielding ever so little to your steady unremitting pressure; take every inch you can; still don't be in a hurry, don't attempt to put on more pressure than your rod will bear, only keep on the pressure you have on *unremittingly*, and whenever you feel it lessen ever so slightly take as many turns of the winch as he will let you. Wind him in fast, but keep your hand very lightly on the winch, ready to let go in a second if he makes a plunge. Kr-r-r-r goes the winch, and he has made a dash off on catching sight of you and the boat. The rush is over. Quick, and wind him in again. Ah, it is about his last run. Now steady, wind in cautiously till you have got the line just such a length that you can bring him up to the top at the side of the boat; but keep him off the boat. Don't attempt to lift him out by the rod; he is too big, and would break your top; still less dream of touching the line, Kuti knows all about it. He has got the landing-net out, a big salmon landing-net, about 1 ft. 3 in. across the mouth, and 2 ft. 6 in. deep, and very full so as to let the fish lie across directly it is in the net. Bring the fish slowly towards him that he may take him into the net tail foremost if he can. Be on the look-out, however, to keep a constant taut line on the fish, for he will evade the net as it nears him. Never mind the boat tilting to within two or three inches of the water; Kuti knows exactly how much his boat will stand; only do not you stand up or otherwise move from your seat. It is not worth while going to the shore to land your fish, besides there is no approachable shore within a reasonable distance, for it is for a long way so forest-clad that you could not get to land with an upright rod. Well netted, Kuti; into the boat with him. Five pound if he is an ounce. You have taken nearly

a quarter of an hour over him. You ought to have had him in very little over five minutes. You see his mouth is much smaller comparatively than a Mahseer's, and he is a somewhat thicker built, less active-looking fish. However, we can discuss that hereafter. Do not waste time looking at him now. Let us get back to the same place, and try for another out of the same shoal. It was just a little below the trunk of that large wild mango tree up there that you hooked him. You have floated down a little and must make up to it again. Fish all about that place. Well, that is not so bad, taking another $2\frac{1}{2}$ lb. and a $1\frac{1}{2}$ lb. fish out of the same swim.

You see the advantage of working a shoal when you have lit upon one. But do not work it to death. They are not rising to you now. They seem to have had *quantum sufficit*. Depend upon it some wary old fogie has "twigged" you and "blabbed," with one of those wise shakes of the head about the imprudence of youth, and they are all looking at him to see if he is right, or only a fogie. If you throw again you will give him a chance of venting a provoking "I told you so." It is better they took him for a fool than you for a rogue. So move on to "pastures new," and after you have gone, there will be a row in the house. Natural food will come down stream, the old fellow, full of his croaking, will abstain and advise all to be "varra carefu'," but some youngster will take it, smack his lips, and turn the laugh against the canny one; and the next morning, when you come round again, you will find his sage advice has been dissipated, and even his own beliefs so shaken, that you will be as warmly received as ever, and, may be, take in the old fellow himself.

Do you see those monkeys moving about feeding in the trees down there? Mark the place, for we must fish it very carefully when we come to it; my impression is that when monkeys are moving in trees overhanging the water, the result is that more fruit and more insects drop down into the water than ordinarily, and that the fish congregate more or less from the neighbourhood to watch for them. As you get nearer, and the monkeys notice you, they will commence vociferating and violently shaking the boughs, which will still further improve the position; meanwhile we will not neglect the water between, but fish it regularly down, till we come to the monkeys. Never mind its looking almost still without any ripple on it, it may all hold fish. Drop an enquiring line to know if there are any fools at home. You're sure to

find some, for the river is nearly as full of them as the world is.* What *should* we do if it wasn't?

These fish take the catkin blossom of the Indian willow very freely. It is in flower at Christmas time. They congregate under it. Drop a fly among them to give them a chance of a change of diet.

Kuti says he has seen a fish rise just about a yard below that bough. Depend upon it he is right. He never takes any notice of those little bits of fish which are too small for our present flies, the *Chela argentea*, say *silvery chilwa* (Tamil, *Vellachi*, Hindustani *Chilwa*), and he will tell you like a European whether the swirl is that of a good fish, or of a smallish one.

This same Kuti is no chicken. He and I were in a boat approaching a rapid, only half of which could be seen from the pool above, and that half was anything but prepossessing, as the river went roaring down the steep incline, which was so long that you could not see the end of it, and could not therefore see, or even guess, how it behaved itself at the far end. I confess I did not like the look of it, and I asked suggestively. "Will the boat go?" He would not take the hint, but answered with perfect indifference, "Don't know," letting the boat glide on the while. "Have you never been here before?" "No." "Are you going to try it?" "Yes." It was a case of sit well down in the bottom of the boat, and hold on to the edges, so as not to be overbalanced, for in another moment the basket-boat was in the middle of it, being tossed about like a feather on the waves, and flying down at great speed, while Kuti jockeyed it with consummate skill, and cool collectedness, taking in intuitively, from the shape of the water, the position of each submerged rock, deciding whether to ride over this, or dodge that, and all with such rapidity and such power of paddle. And how the little boat obeyed him! Now and then it would seem as if it must be all U P. But the fellow was as cool as a cucumber, and the next moment we were past the danger, still riding rapidly on, and after having had ample opportunity for fully appreciating the advantages of holding on tight to the edges of the boat to avoid being pitched out, there was a flop, and we had taken a drop into the pool. Kuti promptly gave three or four vigorous paddles, and was out of the main current, the little boat riding quietly on the still water close

* Carlyle says tersely—I quote from memory—"There are thirty millions in Great Britain, mostly fools."

under the rocks at the edge of the run. No one who had not been at it from a boy could possibly have done it. Kuti's own elder brother, who, like himself, has been on the river from childhood, who also has the name of Kuti, and is also a good boatman, even he had thought better of this one rapid, had taken his boat out at the top, carried it round by shore, and put it in below the run. I think he was the wiser man of the two ; still Kuti minor is a broth of a boy. It is a pity he only talks Tamil. It suits me well enough, and we hold long conversations as we work away together, the one at the rod, the other at the paddle, and when a good fish rises and is missed, he takes it quite to heart, and cannot repress an involuntary sound of regret ; still it is a pity he cannot talk English for the sake of other anglers.

A certain sporting major used to so delight in this basket-boat fishing that he came more than once all the way from Calcutta to the Madras Bawanny for it. The following episodes, as written at the time for the *Asian*, will show that it has its little exhilarating excitements, as well as serve to lighten my page.

R. was coming down a rapid, from a higher to a lower pool, in the usual coracle, with a rat of a boy for boatman, a boy with baccy-pipe legs and arms, a point to be remembered, and a general magnitude, such that any ordinary man would have had no very great difficulty in dandling in his arms. Against his better judgment R. was tempted to flick a fly into certain cosy looking eddies as he whisked past. As might be expected the fly was caught in a bush behind. "The line is caught, to the shore immediately," was the word. Gallant efforts did the lad make to get the boat out of the main rapid into the side eddies, as if for very life vigorously did he seek the shelter of a certain rock. All but he reached it. One effort more, and the last shelter is lost or won. The lad leaned over and strained to reach the rock with his hand. It was just half an inch too much, and over tipped the coracle. In went the little rat headforemost, over went R. backwards, but wriggling in his fall managed to make his exit legs downwards, keeping hold of the boat with the left hand, and the salmon rod with the right. By the time he had struggled to a firm footing, up came a cocoanut head, and the little drowned rat reappearing, clutched instanter at R.'s left cuff, and with an awestruck visage, full of the grave import of the occasion, said in impressing solemn tone : "My Lord, if I had not caught you, you would have been *gone*." Meanwhile R. was holding

the boat, which would otherwise have been carried away down the rapid; and standing up to the fork in rather rapid water. So with a lengthened "You indeed!" of astonishment, he simply said to the boy, "Hold the boat while I free the line." The grandiloquent youth woke up to the realities of life, and dashed off to release the line himself, and both of them got into the boat again and proceeded. Then R.'s pent-up sense of the ludicrous could be restrained no longer, and ring after ring of laughter *would* come out, though the poor boy was sadly silent, and after R. had told the tale to every one, and fairly used it up, he was heard gurgling alone in his tent, as he was washing hands, etc., for dinner. "What's the matter?" shouted H. R. replied solemnly, "My Lord, if I had not caught you, you would have been *gone*."

This idea of helplessness in the white man, involving protective aid in the black, seems strangely to have pervaded all the boatmen, all looking upon us as "landlubbers" perhaps, for the very next day came P.'s turn for a pip, and this time in deep water. In the heavy water of a big pool the boat gave a sudden whisk which upset P.'s centre of gravity, and over he went. In consequence up tipped the light coracle, out went the boatman at the opposite side, and both men and boat went down, sucked under the rock by the current, "*rari nantes in gurgite vasto*," twenty feet deep. P. struck out for the top, but only to come against the bottom of the boat; at length swimming free of it, and emerging, and still swimming in twenty feet of water with a heavy current, a new peril awaited him. The boatman seized him by the arm to save him, which of course hindered his swimming, and it took all P. knew in shouting Tamil, and striking out, to shake him off. Meanwhile, P.'s pith hat had floated down into the pool below, where R. was, and recognized it as his son's. While R. was making for it in his coracle a black figure appeared on the top of the high rocks above, gesticulating and pointing to the hat, from which R. gathered that P. had taken care of himself, and was now only in danger of sunstroke from being hatless. The gesticulating figure was the boatman, who coming down for the hat, was full of his woes. The boat had upset, and he and the gentleman had gone down, and the boat was gone. "But the gentleman?" asked R.'s boatman. "He exists," said P.'s boatman, "but the boat," and that was the important point to him, "the boat has disappeared." An hour or so afterwards a good diver

recovered it. It had got jammed under the rock by the current, and held down in deep water, where P. actually was, and might have remained if he had not struck out manfully.

Our wag H. was heard to say gravely that he could bring home as good stories any day if only he was allowed to go out *alone*.

Sometimes a rock is found standing out in deep water in the middle of a pool, showing just below the surface and causing gentle eddies in the deep pool just below it. Big Carnatic Carp affect such places as far down as there is the slightest eddy in the water. One such place I have in loving memory, and it has been photographed and reproduced in oils.

Now we will get ashore and let you put up your own rod. Mine, you see, is a 16-ft. light-made pliable salmon rod, with 120 yards of Manchester Cotton Twine Spinning Co.'s waterproofed line on a 4-inch diameter check-winch, with a 9 or 10 feet cast of single salmon gut, carrying three flies, as for trout, the two end ones being on No. 5 or 6 Limerick hooks, according to my scale, dressed very full, and all the way down the shank, and the first drop on No. 4 Kendal-Kirby, or round bend, which is just the same size as No. 6 Limerick, but being short and fine, it is a much smaller fly. The flies are all nearly the same colour, being as black or dark as I can put them together with a glistening shiny appearance. Nothing kills better than a fly all peacock harl body, wings, and all, and full. But peacock harl is frail, uncommonly frail, and wears out all too soon, and objection may well be taken to it on that score. You will find our friend Blackamoor in the chapter on Fly-fishing for Mahseer.

My rod used to be a 16-ft. light-made, pliable salmon rod by Farlow, and I was thoroughly contented with it till I tried a light pliable double-handed 14-ft. trout rod, and then I vacillated between them, preferring the 16-ft. rod when there seemed to be a fair chance of a stray Mahseer as well as the Carnatic Carp, and the 14-ft. rod when the chances seemed the other way, and when tired in the afternoons, till I think the younger lassie was beginning to seduce me from my old love. Indeed I was beginning to question in my inconstant mind whether the one was not a match for money, greed of Mahseer, and the other a love match, love of sport, purer sport with greater skill, and still there came in a slinking attachment to the old girl who had been my sole companion and confidante in many a well-

contested fight. Still it is a matter of opinion, for a friend who was fishing with me came home one evening very cock-a-whoop at having killed a 5-lb. Carnatic Carp on a single-handed 11-ft. trout rod,* and having had so much fun out of it, that he declared he would never use a salmon rod again. There was no gainsaying that argument, but against it there is the consideration that you kill many more fish with the salmon rod, for the simple reason that you can throw a much longer line; and this is a matter of some importance, when you are fishing mainly in still, or almost still, water, and you want to get your fly so far away from you that the fish may not see you or the coracle; for if they see it your chances are of course *nil*, as already fully expounded in previous chapters. The coracle is such an obvious object that the necessity for a long line is greater then than when fishing on foot, and able to conceal yourself. I have killed the Carnatic Carp in heavy runs, and in shallow stickles, which you can approach more nearly with impunity, because of the ripple on them; but I have killed many more and better fish of this sort in the deep, almost still, eddies near the steep banks under the overhanging trees; therefore it is for this sort of fishing that you should be best prepared, and for this I like the long cast of the salmon rod. Again, three large No. 5 Limerick hook flies are just a trifle heavy for an 11-ft. rod. Once more, we are not quite sure how heavy may be the fish you may get in this manner of fishing. It is true that of the fish caught by my friends and self the great majority were 5 lbs. and under, and that 7, 8, and 9 lbs. were the biggest Carnatic Carp we took; still Day says they run to 25 lbs., and such a distinguished naturalist is not likely to have made such an assertion without having tested it by something better than native hearsay; tested it probably by net-caught specimens. Natives have told me that they run to nearly a cubit in length; we know they are a very deep fish. Whether a 25-lb. Carnatic Carp will rise to a fly or not has, I fancy, got to be discovered, but if it will, such a fish would ordinarily be a trifle too much for an 11-ft. rod. And one lives in hopes of getting such a fish on, does not one?

A 14-ft. rod is a compromise, and latterly I came to recognize it. It is a rod which you can use single-handed for a few throws, very few with most men, but for any length of time it will call for two hands.

* I have since had the same experience on a 9-ft. trout rod, and yet I am unconverted.

It is properly a light two-handed rod. Where there are only Carnatic Carp to be considered, undoubtedly it is the right rod for them, and as you would not fish for Carnatic Carp, or "the likes of them," except where the chances of Mahseer were few in comparison, you should then take the rod which best suits the style of fishing contemplated. But if the chances are at all even, of course you will prefer to be prepared for all comers with a 16-ft. rod, and should a 50-lb. Mahseer, instead of a Carnatic Carp, take your fly, to be able to pass the word "ready, aye ready," and to look to making him your own, instead of being anxious to get it out of his mouth, like the thrifty Scot of *Punch*:—

DONALD. "E—h, Sir! yons a gran' fesh ye've gotten a haud o'!"

THE LAIRD. "Oo, aye, a gran' fesh eno', but I'd be gay an' glad if I saw my twa and saxpenny flee weel oot o' his mooth!"

I have killed these fish, for please remember that we are discussing nothing but the Carnatic Carp in this chapter, on flies of many colours, and of pretty nearly all sizes, from a No. 1½ Limerick to a No. 6 Limerick (my scale), and even a No. 5 Sneek bend, which is equivalent to a No. 8 Limerick, and I have killed on a phantom minnow, and on a spoon, and on spun dead bait; but I have killed both more and larger fish on a No. 6 Limerick hook, and have done more business with a dark, gaudy fly, composed body, legs, and wings entirely of peacock harl, than with anything else; though my old friend the simple black fly seems to be very little less attractive than his more glistening brother. Still, I am bound to confess that there once was an evening, a memorable evening, it was a sorely trying evening, when the fish were rising freely at some natural fly, and would not look at our flies. The natural fly was on only for a brief space at sunset, and I could not catch it, but it seemed as small as an ordinary trout fly, if not smaller. Trout will play you the same trick sometimes, when they are "midging," even though you think you have every fly entomologically worked out, and exactly prepared for their acceptance, so that sometimes it really does seem that like the little boy:—

"Who can thoroughly enjoy
The pepper when he pleases,
They only do it to annoy
Because they know it teases."

Still our flies did their work very well ordinarily, for we got fish

running from $\frac{1}{4}$ lb. to 9 lbs.; very seldom, indeed, did we take one under 1 lb. and not often over 5 lbs. or 6 lbs. They generally averaged between 2 lbs. and 4 lbs., and we used to take from three to fifteen fish or thereabouts (I write partly from memory, partly from notes) every morning, and not much less in the evening. Still, I had some thoroughly blank days near Valamhoondy, as experimenters must expect when trying new waters; as even old hands have even amongst their old friends the trout at times.

On one occasion they fairly put our backs up with their exasperating fastidiousness, so we made the men catch us a lot of grasshoppers, which they did very easily. They were brown ones. And with them we played the very deuce with those Carnatic Carp, throwing the grasshoppers like a fly, but tenderly, some of us using them on bare hooks, some on our flies.

I have also killed Carnatic Carp on spoons of all sizes, up to a Mahseer spoon as big as a dessert-spoon. But a small, hog-backed fly-spoon of $\frac{3}{4}$ inch in length is more their size if you are fishing for them alone. It is illustrated at the end of Chapter VII.

It is a thing to be remembered that all Indian carps, when they grow to any size, become more or less predatory, and may consequently be taken on a spoon. Even a Labeo, the Rohu, has been known to take a small fish.

If fishing a large river, which is rocky enough to hold Mahseer as well as Carnatic Carp or its equivalent, one grudges losing any possible chance of the finer fish, the Mahseer, by using the lure chiefly applicable to the lesser fish, the Carnatic Carp; and though Mahseer will also take the larger fly used at the tail of the Carnatic Carp cast, we know that the larger Mahseer are far more partial to the spoon, so in such case you can compromise by reducing your spoon to a size suitable for a Carnatic Carp, and with it fishing the stronger runs in the hope of a Mahseer, and the tails of the runs, the eddies, and the stiller water, in the expectation of a Carnatic Carp. You thus give them both a chance of a look in, and neither of them can complain. A 40-lb. Mahseer has been caught on a spoon of $1\frac{3}{4}$ inches in length, and the captor thereof habitually uses for Mahseer spoons of $\frac{3}{4}$ to $1\frac{3}{4}$ inches, the last for preference, and a Carnatic Carp of $5\frac{3}{4}$ lbs. has been taken on one of $2\frac{1}{2}$ inches, say the size of a dessert-spoon. Either of them therefore ought to be content with a spoon of $1\frac{1}{2}$ inches, with No. 7

treble hooks, one at the head and one at the tail, and a No. 5 double swivel. You can cast it easily with a 16-ft. or 14-ft. rod, as you prefer, and if you have plenty of running line on you may yet take heart of grace from the thought that many a goodly Mahseer has been killed on occasion with no better weapon than a 14-ft. rod, though it is not the right weapon, and must be in very good hands.

Supposing that each angler has a boat and boatman to himself, and that not more than two are fishing from the same camp, it is not well to separate; it is a pleasanter way to take the pools alternately. A. commences on the first pool, be it large or small, the luck will right itself before the morning is over, and fishes it down from head to tail. B. meanwhile glides down stream in his boat to the next pool, without even wetting his line in A.'s pool, though he sees a fish rise. When A. has done his pool, he glides down till he overtakes B., and you ask each other of the sport, as A. passes on to pool No. 3, and so you keep passing and repassing each other, comparing notes, and encouraging each other, while each has the satisfaction of knowing that he is fishing fresh water all the time.

The Indian coracle or basket-boat has no seat in it. It strains the knee joint to sit like a native on the "hunkers," *i.e.*, on your own heels; it is but poor relief to sit cross-legged, and it hurts the knee to kneel; standing is out of the question, so that the Indian coracle is, for any length of time, a very uncomfortable vehicle, so uncomfortable that it does away with half the pleasure of your sport, and prevents your fishing as well as if you were comfortable. You cannot take in a chair, because the legs would find their way through the leather bottom of the boat, which would end in your eventually finding your way to the bottom of the river. You can obviate all this, and make yourself thoroughly comfortable for about 8 annas, say, 1s. Get a bamboo basket, made much the shape of the ordinary basket, that is the shape of the round half of an egg, only have it made much stronger than is usual, strong enough to bear your weight, whatever that may be, and have it made so deep that when turned bottom upwards it will be exactly 14 inches high. On this bottom you are to sit; therefore cover it with stuffed leather. A cushion would slip and trouble you at critical moments, therefore sew the rough leather on to the basket, with a little stuffing under it. This will bring it up to 15 inches, which is as high as you can safely have it.

The height of a dining-room chair is 18 to 18½ inches in the seat. A friend who accompanied me would never have his basket seat more than 12 inches high, stuffing included, because of the risk of capsizing the boat if the weight is too high when shooting the rapids. This turned mouth downwards in the boat will give you a comfortable, steady seat. The basket must be very strongly made, or it will get limp, with a lean to one side, and become most delusive just when you are most confiding in it, sending you flying on to your back when the boat bumps against a rock. On this account you may be tempted to have a box instead, but you will find that too heavy to carry. Of course you will never take a valuable box of tackle as a seat. Having had one very pretty pip I never take anything of that sort that I cannot put in my pocket and stick to. The open end of the basket should be closed with a fastenable lid, so as to keep in the fish. Add a slit in one side of your basket seat, and you can then put your fish under you, and have them stowed away out of the sun, and out of the way of your feet, otherwise you may well have the boat so full of fish that you cannot move your feet without treading on and mashing a fish. I add also a basket-work door to the slit, working on a hinge, and fastening with a peg and eye. This keeps the fish in, and enables you to use your chair as a basket when out of the water, and wanting to carry your fish. It comes in handy then, for you have no one but your boatman with you, and if you go ashore to get round an impassable rapid, the boat, paddle, and landing-net is about as much as the boatman can manage, and you will have to carry your rod and fish yourself. Sometimes you will be tempted to wish the basket was not so full of fish, but do not leave them behind, they are very acceptable to the camp servants and to the boatmen. In this respect I always treat the man that shares the toils of the campaign handsomely. Do it yourself, or the camp servants will treat him badly. It is good policy for sport's sake, as well as the right thing to do.

If you have not been at the trouble to have a basket of this sort made beforehand, then two or three common baskets, which can be picked up ready-made in any bazaar, put one inside the other, strengthen each other, and are better than nothing. But they are not so comfortable as a properly made basket-seat, for

they are not high enough, and are rough to sit on. If you go fishing, it is presumed you go for pleasure, and your pleasure will be very much marred if you are sitting all the while in constrained positions which grow more and more trying with time. For a trip such as I am proposing a comfortable seat is as much a part of your fishing gear as your rod and line, and it should be got ready beforehand and taken with you. You may try ever so much to keep yourself up to the mark, but it is impossible you can keep on fishing nearly as well while increasingly uncomfortable, as if you were thoroughly at ease and enjoying it.

For eating oneself, I do not think the Carnatic Carp are worth keeping, though they are much better than the common English carp (*Cyprinus carpio*), which some people manage to clamber outside somehow. To those about to do so, my advice is, don't.

Our Carnatic friend is not so active a fish as the Mahseer. It does not dash off like the Mahseer, it takes out very little line, but goes down in deep water, and bores about like a log without very much change of place. It is, therefore, not a difficult fish to kill. It never jumps into the air like a trout, nor shakes its mouth in the air like a pike. It has a leathery, toothless mouth, and gives as good a hook-hold as the Mahseer. Its teeth are, like the Mahseer's and all carp's, pharyngeal or in the throat. Still, do not think otherwise than kindly of him, for is he not a fly-taker? And is it not a great thing to get a fish that takes the fly better than anything else?

But it does not take the fly after the manner of the Trout, the Salmon, and the Mahseer, rising to it from its place in the stream, taking it quickly in at a gulp, and then returning to its position. On the contrary, it takes the fly more as the dace does.

It swims leisurely up to it, and just sucks it in. It then does not sink to the bottom so as to oppose its weight to and tauten the line at once. It stops where it is, or continues to swim leisurely about, or it lets itself be carried leisurely down stream to where it was before. And if while doing this it discovers that your fly is a tasteless, uncomfortable-feeling feather, instead of the juicy morsel it had expected, it simply spits it out. It is a pretty little accomplishment commonly practised in polite circles among all fish, and some of them are great adepts at it. *Chelmo rostratus* is a gentleman I would almost back against a Yankee at expectoration. He makes his living by it. He

used to be known by the name of *Chatodon rostratus*. I suppose he changed his name because he didn't like the stories told about him. Men do say that when he sees a fly in the air, he, to put it nicely, blows a drop of water at it, with such force as to bring said fly down as dead as Julius Cæsar. Thereon he improves his opportunities, and puts himself outside said fly. He can make due allowance also for the fly being in motion, and for the wind. *Chelmo rostratus* may have, in the formation of his mouth, a choke bore, peculiar facilities for forcible and precise expectoration; but all fish can, and commonly do, perform that interesting operation more or less. The whale takes in a huge gulp of water in its capacious mouth, retains the *medusæ* on which it feeds, and ejects the water in the manner commonly called spouting. Most people will have seen gold fish in an aquarium not only sucking in water, and ejecting it by the gills as mentioned at page 45, but also ejecting it by the mouth when they have taken in any food they do not want to swallow. A grain of rice, for instance, may be seen blown out of the mouth with considerable velocity. Have you never found your worm or your spinning bait blown up your line well clear of the fish's mouth? How can you account for this except by allowing that the fish has the power of blowing a thing out of its mouth. If you watch very closely you will see how it is done. The mouth having been opened to suck in either the water the fish is to breathe from, or the food it is to feed on, it is closed again while the gills and gill-covers are opened to let the water pass out through the gills, while the oxygen is inhaled, and that the food may be swallowed without water. If, when the water has been thus got rid of, it is found that the substance in the mouth is not the food that is desired, but something to be rejected, the mouth is again filled to the full with water by opening it, and then by closing the gills first, and by compression of all the flexible parts about the mouth, and partial closing of the orifice, the water is violently squirted out. In short, the mouth of a fish is a sort of suction pump capable of working both ways, by alternate dilation and compression of the mouth, the gills and gill-covers, and the skin under the chin. If it were not so I do not know how fish could apprehend their food. They have no hand in which to take the food and examine it before putting it in their mouth, as briefly alluded to in the chapter on Fly-fishing for Mahseer. Their mouth is itself their hand, in which they take and examine much that looks like food, but which they are not

sure of till they have thus tried it. Only on this principle can we understand a Salmon taking into his mouth all the extraordinary coloured artificial flies he does, not like anything that he has seen in the sea. An extra reason for a fish taking unknown things into his mouth for examination is that, in rivers, they are carried past so rapidly that the fish has not time to trust entirely to the eye. It is this brief interval, then, between sucking in for investigation, in the belief that the artificial fly is or may be food, and the blowing of it out again on the detection of the fraud, that you have for striking your fish. In the case of the Salmon and Mahseer you are helped at the critical moment by the fish's habit of descending to its place at the bottom, and by the weight of the fish tautening your line, so that if your line is thrown and kept straight, as it should be, the tautening takes effect at once, you only have to resist and hold on to it, much as you would to a stumbling horse. The Trout helps you just a little by the same habit of descending to his place at the bottom, but the Trout's weight is not enough to tauten your line decidedly, and the trout line is by no means always straight, especially when throwing up and pulling down stream with so light a line, and when throwing across it is often bellied by the force of the stream, and when there is wind to contend with it is impossible to throw a light Trout line quite as straight as a heavier Salmon or Mahseer line. Consequently you need to strike quick for a Trout, as quick as you like, you can't have too quick an eye and wrist. But the hero of this chapter, like the Dace, the *Barbus filamentosus*, and others to whom I shall introduce you, does not descend to take up his place at the bottom; he does not aid you, therefore, the slightest bit in taking the slack out of your line, and the interval left you for hooking him is shorter. In consequence you have to strike if possible still more quickly. On these grounds I hold that you cannot strike too quickly for the Carnatic Carp. With this idea in my head, I have watched these fish. They were taking some small natural fly very freely, and refusing to look at our artificial flies, showing thereby that our flies were not like their natural food then on the water, yet now and again at long intervals, when there was less natural food on the water, some one fish would take our fly out of pure curiosity. Thus the adventurous got taken in. The much-fished Trout has learnt that this spirit of enquiry doesn't pay, and he won't take a fly into his mouth unless its colours and its size and motion are so exactly like the natural

fly at that time on the water, that all his hereditary and acquired suspicions about perfidious anglers are disarmed. His motto is *Timeo Danaos et dona ferentes*.

There, now, I am always prating about fishing with your brains, and not by rule of thumb, and may be you will be sick and tired of me, and shy the confounded book on one side; but to my mind it is so much more interesting to have an intelligent reason for what you are doing, that I hope you will be graciously pleased to pardon the seeming digression. Suppose, now, that you have been missing rise after rise of our friend of this chapter, the Carnatic Carp, and you cannot make it out, and you vary your tactics and strike a little slower. Instead of there being any improvement in the results your discomfiture is only increased. And then you try back again, and you fish half-heartedly on no fixed principle, but according to your vacillating haphazard mood. Whereas, if you have accepted my reasoning as sound, and have yourself seen that these fish take the fly just as I say they do, then you fish like a man with a purpose. If you miss a rise you do not deviate from your purpose, you only say to yourself my fixed purpose must be still more carefully executed, my line must have been cast just a little carelessly, not quite straight, or it cannot have been kept quite straight as it should have been, or that fellow was one too many for me that time, though my ball was a regular bailer. Try some more of those. The truth is I had not had a rise for some twenty throws or more, and I had got just a little slovenly over it. Never mind, I'll take a pull on myself and see if I can't be even with them next time. Next time you have him.

There are good fishermen who will be angry with me for all this prating, I daresay, because there are good fishermen who lay down points dogmatically, and their dictum is accepted because they are successful. But I maintain that even the successful could be more successful still if they would study the *rationale* of the thing, and fish at every step on natural history knowledge. The best fishermen do this intuitively, and such would not accept anything on the *ipse dixit* of the writer merely because it is set down in a book. They will want to know the reason why, and to weigh the reasoning for themselves.

But some will say that, when striking very quick, they are in danger of striking too hard and breaking either rod or line when they come

across a big fish. There is a simple way of making any such mishap much less likely. Never throw the full length of your line, but just a foot or so under it, so that it is necessary to get the rod out of the same line with the line, to get the rod point just a foot or two elevated before you can quite straighten, or gather up the slack on, your line. Then any sudden pull must come on the top joint of the rod, which being a pliable fly-rod yields till the line runs. Be careful at the same time to grasp your rod with three fingers of the upper hand underneath the line, and only the middle finger above it, so that when the middle finger is raised the line runs free. You may then strike without much fear. If you strike a trifle too hard the bending rod and running line will save your tackle from the worst force of the first blow, and after that you have time to regulate the incline of your rod to the pull of the fairly-hooked fish. You will find that the middle finger soon becomes very ready at checking or freeing the line at will. When casting it is closed on the line so as to prevent its running out involuntarily, and when working the fly, and expecting a possible rise and strike, it is held free. The middle finger soon learns its duties to such a nicety that, if you so wish, it will even ease off the strike by only half closing on the line and so only partially checking it. You can with advantage adopt the same method of holding a light, single-handed trout rod, and you will find it will help to save your fine drawn-gut collar when a bigger trout than usual is pleased to honour you, will save it at the strike, and then instantly come to the rescue in stopping the line for the playing of him.

But this principle is only applicable within certain limits. With a salmon rod you can never strike lightly enough for fine drawn gut, that is, if you strike at all quickly, you must use salmon gut; with a two-handed 14-ft. trout rod you must use coarse or stout gut; with a light one-handed trout rod only can you use the finest drawn gut or even a single hair. To strike quickly and lightly is the finest touch of art in the accomplished trout fisherman, but even he cannot do it with a two-handed 14-ft. rod, much less with a heavy salmon rod. It can only be done lightly enough for the finest tackle with a light rod of from 9 ft. to 11 ft. which you can perfectly command with a single turn of the wrist. I use for such fishing a 10-ft. rod. A 14-ft. rod is just too much for it; you need to take both hands to it, and you use your arms more than your wrist, and directly you have to use your arms you are slower in

giving the strike, and slower again in stopping it, in short, you necessarily take longer in overcoming the greater *vis inertiae* of the heavier rod, whether it be in setting it in motion or in stopping its motion or momentum. Some trout fishermen prefer a 14-ft. rod for trout-fishing on the ground that they can cover so much more water and keep farther away from the fish. That is true enough, but if they would only consider the above, and try it, they would find that they dare not use nearly such fine tackle, because it is simply impossible even in the most accomplished hands to strike as lightly. As I have insisted elsewhere, under Mahseer fishing, that you must accommodate the strength of your tackle to the pliability of your rod, so here also the converse holds in striking your fish, which is again the converse of your fish striking you, that you must accommodate your rod to the strength of your tackle, accommodate it both in pliability and in lightness: in pliability to allow of the line running readily, in lightness to allow of the wrist having a complete mastery. Of course there is a mean. If the trout rod is too pliable you cannot strike quickly enough. Therefore I prefer in a trout rod that it should be rather too stiff than too limp, trusting to its *lightness* to allow of my wrist giving rapidity. In the salmon rod, I prefer greater pliability short of being top-heavy for reasons set forth under Mahseer-fishing, in short, because the Mahseer does not lay a light hand on you but a heavy and a sudden one. For our present friend the Carnatic Carp I prefer a light 14-ft. double-handed trout rod. With that you may use single salmon gut on your flies, but not finer with prudence.

A single-handed trout rod is a mistake for this sort of fishing as a general rule, because you cannot throw big enough flies nor throw them far enough from the boat for a good day's sport; but if you are tired, as I have been, with wielding a heavy rod all day, and want just a little sportive dalliance in the evening, and are content to confine your attentions to water in which a long throw is not necessary, you may have the refinement of sport by killing 5-lb. fish on a small trout rod that will not lift a quarter of a pound off the ground.

I have not had opportunities for fishing for the Carnatic Carp on other rivers than the Bawanny, an affluent of the Cavery, and I have only fished some 20 or 30 miles of the river, above and below Metapolliam, particulars of which will be found in the chapter on Fishing Localities. But I have recognized the same fish caught in nets

100 miles or more down the same river in the Tanjore District. I have, therefore, grounds for thinking it is more widespread than Dr. Jerdon was aware of at that time. It is thus clearly not confined to the base of the hills.

H——, who is a good fisherman, writes me that he came across very heavy Carnatic Carp at Hoginkal, on the Cavery. "They would *look* at, but would not take a fly there. They took a green weed called *Pásām* freely," but were as cunning as a fox.

The Carnatic Carp was introduced into the Bilikal Lake, and the Ootakamund Lake, on the Nilagiris. It is known to be flourishing in the former water, and is believed to be so also in the latter. Fishermen should try them with a boat.

The best hours for fishing are, in my view, from dawn till 11, and from 3 to dusk, though just at dusk I could frequently do nothing with them. Fishing for such long hours as from dawn to 11, and often getting up at half-past 3 or 4 in the morning, to get out to your ground by dawn, one gets a little bit hungry before 11, and if you allow yourself to get faint and hungry under a tropical sun, you are simply tempting a sunstroke, and, what is more my business, perhaps, you are not fishing well, but in a slovenly, tired manner. You are not half enjoying it, and you are not killing nearly as many fish as you would be killing if you were feeling quite fit. Now, to think of sitting down to eat while fish are rising is too Gothic. The precious moments cannot possibly be spared for such low uses; so my little plan is to take Abernethy biscuits in the left pocket. They are easily broken with one hand, and eaten without taking your right hand off the rod, or your eye off the line for one moment. Many a one have I eaten while in the act of playing a good fish. In England, where you are at it all day, from morn to eve, and are not going home to breakfast and shelter during the heat of the day, there is nothing like sitting down comfortably to a pleasant meal and chat, and bit of a rest; that's quite another case. Then you should take something for your man as well as for yourself. A gentleman I know of had failed in this little forethought, and was rebuked for it. He had had his snack and was at work again. His man had had none. But no better luck attended the afternoon fishing than had come in the morning; the basket was as empty as the man's inside, and the master broke the silence with—"The fish won't bite." Thereon the man incisively: "Woant boite, woant 'ey.

If they was arf as 'ungry as me they'd be boiting as if the divil was in 'em."

I have had somewhat inadequate opportunities for arriving at any conclusiveness about the time of spawning, but one year I noticed that Carnatic Carp caught at the end of September had their roe more than half formed, and that fish caught in December were full of milt; and another year some ten miles higher up the same river they were mostly full of roe and just spawned on 30th September, 1882. Natives said the fry could be taken in the dry weather (Chitra). Native fishermen say that they feed freely on waterweed, and may be taken with a piece used as a bait. Perhaps this is what the peacock harl body is taken for.

The following description of the Carnatic Carp is extracted from Dr. Day's "Fishes of India":—*

Order. PHYSOSTOMI.

Family. CYPRINIDÆ.

Sub-Family. CYPRININÆ.

Genus. *Barbus*.

Sub-genus. *Barbodes*, with four barbels.

Division *b*. Last undivided dorsal ray osseous and entire.

BARBUS CARNATICUS.

Jerdon, M. J. L. S., 1849, p. 311; Günther, Catal. VII., p. 128. *Puntius* (*Barbodes*) *Carnaticus*, Day, Proc. Zool. Soc., 1867, p. 292. *Poaree candee*, *Saal candee*,† *Shellee* Tamil. *Giddi-Kaoli*, Hind. *Gidpakke*, Can.

B. III., D. 12 ($\frac{4}{5}$) P. 15, V. 9, A. 7 ($\frac{2}{3}$) C. 19, L. 1. 30-32, L. tr. 5/6.

Length of head $5\frac{3}{4}$, of caudal $4\frac{1}{2}$ to 5, height of body 3 to 4 in the total length. *Eyes*—diameter 3 to 4 in the length of the head, 1 diameter from the end of snout, and $1\frac{1}{2}$ to 2 apart. Inter-orbital space flat. Dorsal profile more convex than that of the abdomen. Upper jaw the longer. Lower labial fold interrupted. *Teeth*—pharyngeal, pointed, curved, 5, 3, 2/2, 3, 5. *Barbels*—thin, both pairs shorter than the eye. *Fins*—the

* Pub. by Bernard Quaritch, 15, Piccadilly: 4 vols. 4to., £12 12s.

† *Sil-kendai*, pronounced *Shil-kendai*, is the Tamil of the Coimbatore district for the Carnatic Carp, while the same word stands in the Tamil of the Tanjore district for a Labeo, which again is called in Coimbatore, *Karumula-Kendai*. Such local variations in a single language increase the difficulty of arriving at correct vernacular names, and indicate the need for extreme caution in the understanding of native testimony.

dorsal $\frac{3}{4}$ as high as the body with a concave upper edge ; it commences anterior to the insertion of the ventral, and midway between the snout and the base of the caudal fin ; its last undivided ray is a strong, broad, smooth spine, nearly as long as the head in the immature, and sometimes longer in the adult, especially in specimens from Canara. Pectoral as long or rather longer than the head. Anal laid flat reaches the caudal. *Lateral line*—complete, $3\frac{1}{2}$ rows of scales between it and the base of the ventral fin ; 12 rows anterior to the dorsal fin. Free portion of the tail as high at its base as it is long. *Colours*—greenish-brown along the back, becoming dull white, glossed with gold on the sides and beneath. Fins greyish. Eyes golden.

Habitat.—Rivers along the bases of the Neilgherries, Wynaad, and South Canara hills. It attains at least 25 lbs. in weight. Some have been introduced into the Ootacamund Lake. The figure is from a young specimen, life-size, the dorsal spine not being well-developed, and the snout not so obtuse as in older specimens.

N.B.—The figure which I have introduced is from a mature 7-lb. fish.

Mr. J. E. Welborne (Hatti Shikaree), of Assam, says (*Asian*, 10th June, 1879) that the Assam *Bookha* is somewhat similar to the Carnatic Carp. From Dr. Day's description it would seem to be very similar, and I hope the same angling tactics may be found to answer for its capture also. I therefore make a short indicative extract from Dr. Day's work :—

Barbus hexagonolepis, Bokar and Boolooah, Assam, with 4 barbels (Barbodes) and last undivided ray osseous and entire. B. iii., D. 12 ($\frac{3}{5}$) P. 17, V. 9, A. 7 ($\frac{2}{5}$) C. 19. L. l. 28–31, L. tr. $4\frac{1}{2}/4\frac{1}{2}$. *Habitat*, Assam, in the larger rivers, and those from the Himalayas. It attains upwards of 2 ft. in length, and takes a fly or bait freely . . . McClelland considered *Cyprinus putitora*, Ham. Buch., as a variety of this species. It is said to attain 9 ft. in length.

In the Jaldoka, a tributary of the Teesta, I have taken *Barbus Dukai*, with a small spoon such as I would use for Carnatic Carp. It was very like that fish, only of a bronze colour. Its formula is in Chapter VIII. of "Tank Angling."

If you will glance through that chapter you will see that I have similarly mentioned *Barbus curmuca*, *Barbus lithopidos* (the stone-coloured Carp), and *Barbus Jerdoni*, giving their formula.

CHAPTER XII.

SMALLER FLY TAKERS.

"Be mindful aye your fly to throw
Light as falls the flaky snow."

IZAACK WALTON.

THUS far the weapon of warfare has been mainly the salmon rod. But there is business to be done with the trout rod also, and as it has its devotees, a few pages must be given to smaller fish that rise to a trout fly. Some of them are very small, certainly, but you are not bound to fish for them because they are just mentioned; and why should not ladies and boys have fishing? There are some old boys, too, who will whip away at anything, however small. And quite right, too, when there's nothing bigger to be got. It does them good. It's the only medicine for the mania which is in many of us. Besides some of these fish are easily introducible into any pond, and are otherwise more within every-day reach than the mighty rivers which hold the Mahseer and the Carnatic Carp, rivers to which it is not convenient to everybody to make a pilgrimage. Without further apology, therefore, I shall introduce my little friends.

I shall endeavour to call them by simple names. But this is not easy, for the majority of Indian fish are known only to Ichthyologists and native fishermen, and have, consequently, only Ichthyological or vernacular names. Except in the case of the Mahseer, where the Hindustani name has been adopted, the use of vernacular names seems a mistake, as they differ with the language and locality. The full Ichthyological name is frequently too long for common adoption. Where the correct name can be simply anglicized, as in the Carnatic Carp, it seems best to follow it. Where it cannot, and I am not aware of any name ordinarily used by Englishmen, I hope I may be excused

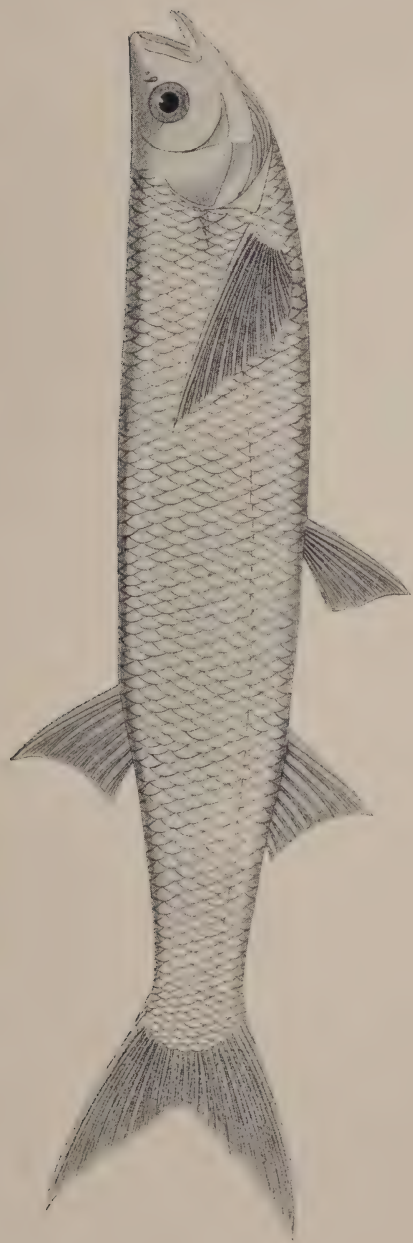
if I propose a simple one for acceptance. Of course the correct Ichthyologist's name shall be appended, and, where I can give them, the several vernacular names. Not being a competitive examiner I shall assign no order of merit.

THE CHILWA.

Chela argentea.

I used to call it the Chela, after the scientific name. But I think the Ichthyologist's name, though meant to follow the vernacular, has unfortunately got wrongly transcribed from a hurried manuscript or inaccurate pronunciation, just as in *Gavialis Gangeticus* the *r* has been changed to *v* by an error of handwriting or of printing, and it should be *Garialis Gangeticus*. So I will call our little friend the Chilwa.

The Chilwa is a very common fish. Day gives ten species, some of which are to be found in Northern, some in Southern India. There is a good deal of similarity among them, so that one drawing (Plate V.) will probably suffice to help recognition of a fish that must be known to most lovers of the craft. The chief external characteristic of them all is a very flat-sided, thin body, with a stomach running to quite a thin edge, but not a serrated edge, and the dorsal fin set far back just over the anal fin. They are very silvery, some more so than others, and their numerous minute scales come off very easily. They are a delicate fish both to eat and to keep alive, so that it requires care to transport them alive; but, once in, they will live in any pond, and keep its surface alive with rises. They thrive in any still water. In the rivers they are to be found in the still water. One of them is very minute, not attaining more than $2\frac{1}{2}$ inches in length, but the majority run, according to Dr. Day, from 6 to 9 inches in length. I have certainly never caught any over 9 inches in length, but I have seen larger ones, and native fishermen assured me, very positively, and exactly, that some of them, and they particularized a *Chela clupeoides*, ran to 18 inches in length, and to a hand-breadth in depth. Considering the accuracy of their information in other respects, I believe the informants in question to be right. Being such a very thin, narrow fish, with a minimum of depth and breadth, their weight is very disappointing in comparison with their length, and a fish of 6 or 7 inches is flicked out with ease by the lightest trout rod. One of 18 inches in



CHELA ARGENTEA.



length, however, should be worth catching. They are most game fly takers, springing into the air after the fly. They want striking very quickly, and especially they want the *smallest possible fly*. Any black or dun fly will do for them; but if it is not small enough you may have rises, but you will keep on missing them most provokingly. If they are in the rising humour they will cover the surface of the water with rises, and you may have rises at every throw. But you won't catch them unless your fly is very small, and your fly top stiff rather than pliant, so that you may strike quickly. You will be surprised what a difference a stiff top joint will make to you.

Ordinary trout flies on No. 9 to 12 Sneek bend hooks are scarcely small enough, and it would be better to have black flies and light duns tied on No. 14, the smallest size of Sneek-bends and fine drawn gut. These were the smallest hooks shown in the scale given in my last edition. They may now be quoted as 000 in the scale in this edition. Fish with three such flies on a light collar.

They do not seem to rise till 1 or 1½ hours before sunset, and to rise best just before and just after sunset. They rise in the morning also, but not so well as in the evening. I do not think they attain the same size in ponds as they do in rivers, though they become very numerous. In rivers they are to be found all over the deepest, largest pools, pools that hold Mahseer and Freshwater Shark. They seem to be most numerous along the shore edge and near bushes, but the bigger ones seemed to be mostly in the deep mid water, but always near the surface.

They may also be taken easily with a float, if they are thought worth fishing for in that way. The bait, a single grain of boiled rice, or a small pellet of rice on a minute hook, say No. 000 Sneek bend, should hang within about a foot of the surface, and the float must be very sensitive, and the rod short and light and stiff so that you can strike quickly. Natives use with advantage the merest little bit of pith or quill less than an inch long, and a straight bit of small bamboo tip. I have seen them, thus armed, catching them by the dozen, to eat. Perhaps they were having an unusually good time of it; but they spoke as if it could be done whenever they liked. Still they seemed abnormally jolly over it.

I have caught three sorts myself with a fly—*Chela argentea*, *C. boopis*, and *C. clupeioides*,—and I have caught them on the west coast of

Southern India, in other parts of the Madras Presidency, and in Mysore.

The Tamil name is *Vellāchī*; the Canarese, *Bellāchī*. Day says, "Generally termed *Vellachee-candee* in Tamil; *Bay-ree-saie* and *Baarsee*, Tel.; *Bounce-putti*, Oorlah; *Took*, Punjab."

They are evidently the fish commonly spoken of by sportsmen in Northern India as *Chilwa*.

Apropos of these little fish, which are caught as much in ponds as in rivers, I should not omit to mention an absurd little adventure. As we rode into camp we found the tents pitched close to a large pond, and the pond covered with circles. "Just look there," I cried, before I was well out of the saddle, "we will have a dish for breakfast," and the trout line was very soon put together, and two expectant friends watched the line fly deftly out, and light with fairy grace among the circles, and lo and behold they were only frogs that were rising so freely at the small flies on the surface! Dear reader, *don't* tell any one.

When shall I write a fishing book as I ought! Evidently it is not in me. Some friend or other is sure to find fault. Look at the following. But what does it matter so long as they so kindly come to my rescue? Best thanks to them. It is what I have always asked, and I will confess that my friend is right:—

"I notice in your book the Chela or Chilwa is treated with scant ceremony. He gives good sport with a fly, failing heavier fish, and bites more readily than any other fish I know. We had a little rivalry in Ajmir some years ago to make the biggest bag. The time was from 5 P.M. to dark, *i.e.* one and a half hours about. A friend killed over one hundred and forty at one sitting, and I managed to beat his bag by twenty-two, that is at the rate of nine fish every five minutes. Three flies and a short line. The difficulty lay in unhooking them fast enough, and I found a sharp jerk would tear the hook out and save much time, only occasionally a fish was slung overboard in this way. They are excellent eating and found everywhere."

Not a few other friends have written me enthusiastically of this fishing.

On one occasion when fishing a tank for Labeo, I noticed that it was pestiferously swarming with Chilwa. I was doing the thing comfortably with servants about me, one looking after the paste bait, keeping up an ever ready supply of rolled-up balls, another on the *qui vive* with the

landing-net, another plying me and my friends (*ego et rex meus*, for which Wolsey was called a bad courtier but a good scholar) with A hot coffee and biscuits between the captures, and all falling in with the sport right cheerily. It was too much for me, and I said to myself: "You're good fellows, you shall have sport too *in propria personâ*, and not only by proxy." So I rigged up some No. 000 eyed hooks on a single length of trout gut, gave them each a miniature detective float—for which see "Tank Angling"—and a bit of string. Meanwhile they cut themselves each a twig of bamboo. They used a tiny bit of my paste bait, much about the size of a No. 1 shot, put the hook, with no shot, about a foot below the float. The Chilwa took boldly. It was one bob of the float and, *mirabile dictu*, they were instantly transformed into flying fish, flying on shore. In a marvellously short time my men had a basketful. "You've caught your dinner," I said. "Dinner," they replied, "there's ten men's dinner there." I need not say my men were none the worse attendants for being the happier, and the Labeo wagged their old tails rejoicingly at the reservoir being a few hundred freer of the pestilentially numerous Chilwa that jostled them for food. So there you are, you see, that's the way to do it, whether with fly or paste.

A little bran floating on the surface will bring them about you.

The Chilwa is scarcely worthy of my devoting to it the number of pages that would be required if, as in other cases, the full description was extracted from Dr. Day's work. The general characteristics of the genus may suffice, with an epitome for each species.

Body rather elongate and compressed; abdominal edge cutting. Pseudo-branchiæ present. Mouth directed somewhat upwards with the lower jaw prominent, and generally with a knob above the symphysis. Barbels absent. Pharyngeal teeth hooked and slender, in two or three rows. Dorsal fin short, without any osseous ray, situated principally or entirely opposite the anal, which latter has an elongated base. Pectorals long. Caudal forked. Scales of moderate or small size. Lateral line concave.

Order. PHYSOSTOMI.

Family. CYPRINIDÆ.

Sub-Family. CYPRININA.

Genus. *Chela*.

1. *Chela gora*. B. iii., D. 9-10 ($\frac{2-3}{7}$), P. 15, V. 8, A. 15-16 ($\frac{2}{13-14}$). C. 19, L. l. 140-160. L. tr. 18-20/18. Vert. 46. *Ghora chela*, Beng. *Chel-hul*, Hind. *Habitat*: Sind, Punjab, North West Provinces, Bengal, Orissa, and Assam. It attains at least 9 inches in length.

2. *C. Sladoni*. B. iii., D. 10 ($\frac{2}{8}$), P. 11, V. 8, A. 20-21 ($\frac{2}{18-19}$), C. 21,

L. l. 65-68, L. tr. 10/8. *Habitat*: Irawaddy, in Burma, extending northwards as far as Mandalay.

3. *C. sardinella*. B. iii., D. 9 ($\frac{2}{7}$), P. 13, V. 8, A. 21 ($\frac{2}{19}$), L. l. 48, L. tr. $7\frac{1}{2}/4$. *Habitat*: Irawaddy river at Rangoon; also the Salween at Moulmein. It attains to at least 6 inches in length.

4. *C. untrahi*. B. iii., D. 9 ($\frac{2}{7}$), P. 13, V. 7, A. 17-19 ($\frac{2-3}{14-17}$), C. 17, L. l. 55-65, L. tr. 7-9/5. *Untrahi*, Ooriah. *Habitat*: Mahanuudi river in Orissa. Also the Cauvery and Coleroon in Southern India. It attains at least 8 inches in length.

5. *C. argentea*. B. iii., D. 9-10 ($\frac{2-3}{7-8}$), P. 15, V. 8, A. 17-19 ($\frac{3}{14-16}$), C. 19, L. l. 43-45, L. tr. $6\frac{1}{2}-7/3$. *Habitat*: Bawanny river at the base of the Neilgherries, Cavery river, and Mysore; attaining 6 inches in length.

6. *C. Punjabensis*. B. iii., D. 9 ($\frac{2}{7}$), P. 11, V. 6, A. 16-17 ($\frac{2-3}{14-15}$), C. 19, L. l. 90-110, L. tr. 12/9. Took, Punj. *Habitat*: Lahore, in the Ravi river; also the Indus, in Sind. It attains at least $2\frac{1}{2}$ inches in length.

7. *C. phulo*. B. iii., D. 9 ($\frac{2}{7}$), P. 13, V. 9, A. 18-19 ($\frac{2-3}{16-18}$), C. 19, L. l. 80-87, L. tr. 12-15/6. *Habitat*: Assam, Bengal, Orissa, Central India, and the Deccan as far south as the Toombudra and Kistna rivers; attaining 5 inches or more in length.

8. *C. boopis*. B. iii., D. 9-10 ($\frac{2-3}{7}$), P. 15, V. 9, A. 14-15 ($\frac{2-3}{12-13}$), C. 21, L. l. 38-40, L. tr. $6-6\frac{1}{2}/3$. *Habitat*: S. Canara, and (?) Mysore; attaining at least 5 inches in length.

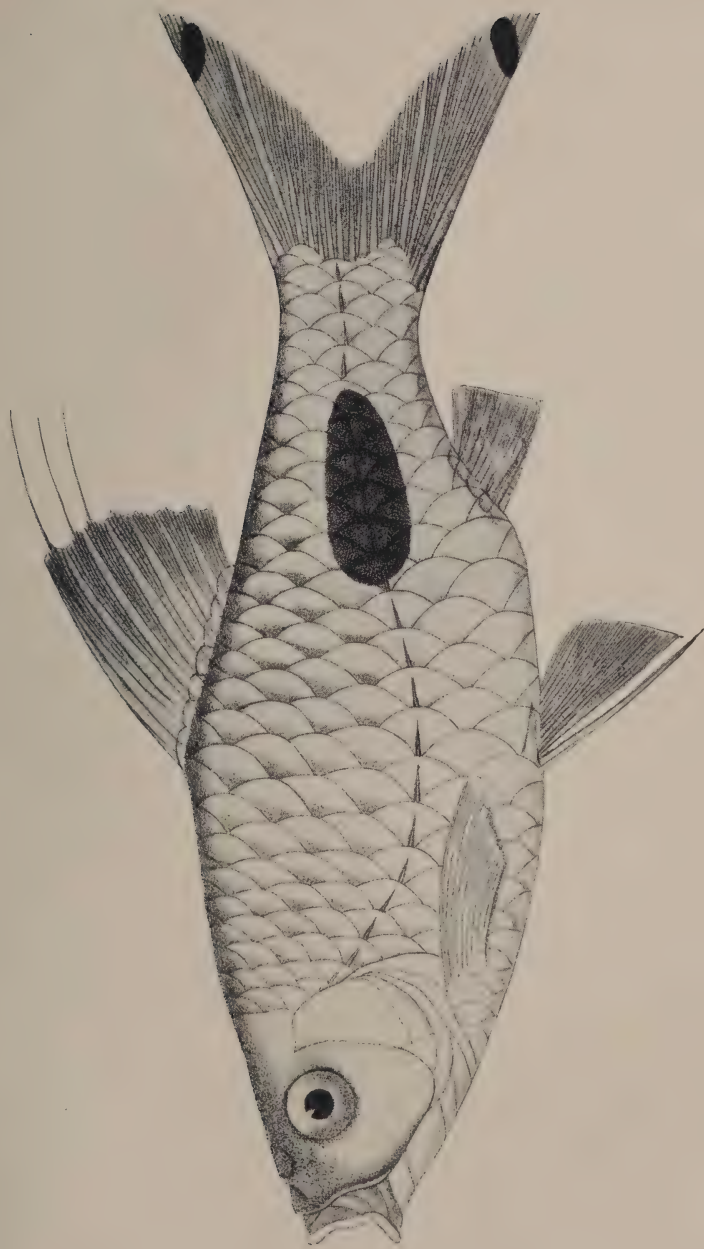
9. *C. clupeoides*. B. iii., D. 9 ($\frac{2}{7}$), P. 13, V. 9, A. 13-15 ($\frac{2}{11-13}$), C. 19, L. l. 80-93, L. tr. 12-15/6. *Habitat*: Cutch, Jubbulpore, Mysore, the Deccan, Madras Presidency, and Burmah. It attains at least 6 inches in length, and is very good eating.

10. *C. bacaila*. B. iii., D. 9 ($\frac{2}{7}$), P. 13, V. 9, A. 13-15 ($\frac{2}{11-13}$), C. 19, L. l. 86-110, L. tr. 17-19/6-10. *Habitat*: Throughout India, except Malabar, Mysore, and Madras, and parts of the Deccan. Dr. Günther gives Moulmein as one of its localities. It attains at least 7 inches in length.

THE BLACK-SPOT.

Barbus filamentosus and *Barbus Mahecola*.

These two fish differ from each other only in the filaments attached to the dorsal fin in *B. filamentosus* (Plate VI.), and in *Mahecola* having two barbels and *filamentosus* wanting them. Their most marked characteristic is the singular black spot on the lateral line near the tail. They frequent the same waters, run to the same size, about five or six in the pound, and are to be fished for in the same way. They unfortunately seem to be confined to somewhat limited localities. I have



BARBUS FILAMENTOSUS.

only met with them on the West Coast ; but Dr. Day adds the base of the Neilgherries and Southern India, and Ceylon. In any case, the area is wide enough to allow of their being mentioned ; very much wider than the area occupied by the Grayling, and probably, like the Carnatic Carp, they are representatives of a class of many other similar small carps, in different parts of India, that may be fished for in the same way. They affect the smaller tributary streams, and especially, if, indeed, they are not confined to, those which are rich in water-weed, on the seeds of which, as well as on the weeds themselves, and the insect life therein, they feed largely. They are not to be found in the runs, but where the water flows more gently, and even in the still water. There they congregate in shoals like dace, and take the fly with a very gentle suck like dace.

To make anything of a bag of them they require right good fishing. I have a note of having at Måla, in the South Canara District, caught thirty one afternoon. Up they came, a fish at each fly, and out they came, one or two at a time. In one throw I took three fish of about $3\frac{1}{2}$ ounces each, one on each fly. But, aye, there's a but, and it must be admitted I have a note also that runs thus : " Had I taken all that rose that afternoon, I suppose I should have killed 300 fish, weighing from 35 lbs. to 50 lbs." Of course I write, not from memory, but from notes made at the time. They are very shy and the water very bright, so you must fish very fine. Their mouth is leathery, but small, so that I think a fly on No. 000 Sneek bend is preferable to No. 0. You miss fewer rises with a small hook. The above note will show I found this out to my cost. Any light dun or black fly will kill, but I saw on the water a deep purple little fly, and imitating it did best with it. It is mentioned among other flies in the remarks on the lesser Barils. Because of their shyness, throw as long a line as you can *perfectly command*, both to fall straight and to strike quickly with, for they frequently rise as the fly touches the water, though a sunk fly will suit them also. Do not draw the fly too close to you, because they will also follow the fly, and if they follow it too close to you they see you, and there'll be an end of your fun. Remember they swim in shoals like dace, so that if you get on a shoal you had better not move from it as long as they keep rising. Out they come, one after another, with a quaint look of unutterable surprise in their faces. " Now, who would 'a thought it ! " You may go on throwing in exactly the same place. Draw your fly very slowly.

They are deep and thick for their length, so that the full-sized ones are just a little too heavy to flick out. Any fish that cannot be flicked out, but has to be struck fine, with a light quick hand, and then brought out quickly, contents me if there are enough of them; and I think it is likely to be the same with many of my readers. For the "straight tip" on quick striking with a very fine line, I must refer to the close of the chapter on the Carnatic Carp, and to the mention of a stiff top under Chilwa.

These fish have the further recommendation that they breed well in ponds, but there they seem, though numerous, to run smaller than in the rivers, presumably from inferior feeding. In the rivers they may be seen rooting busily among the water-weeds, where they find shrimps in abundance, just half-an-inch long, and prawns from $1\frac{1}{4}$ to $1\frac{7}{8}$ of an inch in length, and numerous larvæ, from just $\frac{2}{16}$ to $\frac{9}{16}$ of an inch long, and little stinging beetles; and the weed and its seed may be found in their stomachs.

In the rivers they do not seem to take so well in the mornings as in the evenings, at least not till 8 or 9. Whether they go on rising from that hour through the heat of the day, I never had the leisure to find out. From 2 P.M. I know they take well, and keep at it till after sunset, till it is quite dark. They seem to sit up late, and be heavy in the morning. Bad habits those. In a pond where they were small and hungry, a friend and I got sixty-six before 11 A.M. This was at Warranga, near Mudràdi. I have had *capital* fun with these little chaps.

Order. PHYSOSTOMI.

Family. CYPRINIDÆ.

Sub-Family. CYPRININA.

Genus. *Barbus*.

Sub-Genus. *Capoëta*, with two barbels.

Barbus Mahecola. B. iii., D. 11 ($\frac{3}{8}$), P. 15, V. 9, A. 7 ($\frac{2}{5}$), C. 19, L. 1. 21, L. tr. $\frac{5}{4}$.

Sub-genus. *Puntius*, without barbels.

Barbus filamentosus. B. iii., D. 11 ($\frac{3}{8}$), P. 15, V. 9, A. 7 ($\frac{2}{5}$), C. 19, L. 1. 21, L. tr. $\frac{4}{4}$.

THE OLIVE CARP.

Barbus chrysopoma.

Of this fish I have caught but few, and he is not worth a great deal, but as he will take a fly, and will live in ponds, he can be used to stock

ponds where it is proposed to do so to make sport. I have taken them about $\frac{1}{4}$ lb. and slightly under, with a black fly on a No 6 Sneek bend hook, and I have also taken them and seen them taken with a float and paste bait. But I have seen them taken over $\frac{1}{2}$ lb. with a net. I have only seen them in the Adyar river above the anicut, and in the Red Hill Reservoir, both near Madras. I cannot call them a sporting fish, though I have known men well pleased with them. I found these fish always in still water. I see Day says they are to be found in the fresh waters along the coast of India from Cutch to Bengal, also in the Deccan, Mysore, and Madras; he also received a specimen from Darjeeling. Tamulians call it Shàni Kendàe, or cow-dung carp, from its colour, but olive carp is to the same effect, and prettier.

There are just a few passing remarks on bottom fishing for this fish at pages 37 and 46 of "Tank Angling."

Barbels iv., D. 12 ($\frac{4}{8}$), P. 17, V. 9, A. 8 ($\frac{3}{8}$), C. 19, L. l. 28-30, L. tr. 6/6.

THE LESSER BARILS.

Barilius Canarensis.

Of the genus *Barilius* there are fourteen species in India. They are so widely distributed that every Indian angler must come across them. One of them, *Barilius bola*, attains some size, and is commonly known as the Indian trout; under that name, therefore, it will be treated of a little further on. The others run more or less to 6 inches in length. I shall therefore call them the lesser Barils. Plate VII. is a life-sized representation of a full-sized fish. I have given *Barilius Canarensis*, but *B. Bakeri* and *B. gatensis* are to my knowledge so similar in their habits that, for angling purposes, they are practically the same fish. The colouring of the *Barilius Canarensis* is so very brilliant that paints cannot do it justice; every colour should shine like burnished metal. The Barils are a very game little fish, rising to a fly with a quick dart just as a burn trout does. They are an active fish, and are to be found where the stream runs briskly among rocks, to be found in the stickles, and all about the edges of the deep runs. They are in large rivers frequented by Mahseer, and in the very same water. In fact, I was fishing for them once, and the moment I had hooked one a Mahseer, recognizing that it was a fish in distress, went for it. They are also to be found in the smaller streams inhabited by the Black-Spect,

but not in the same water. Where the river runs lazily among the weeds you will find the Black-Spot; where it runs rapidly among rocks, the Baril.

They are small, not running larger than a hungry beck trout of $3\frac{1}{2}$ ounces and under. They are, however, plentiful, and free fly takers, and to be fished for just as for a trout. They will rise to any small trout fly, and I have had on simultaneously one red, one dun, and one black, and they have taken kindly to them all, and sometimes two and three have been pulled out at once, just as little beck trout are at home. But the trout flies should be of the smallest, for though the fish will rise, they will not be readily hooked, unless the fly is on a hook as small as No. 000 Sneek or Kirby bend.

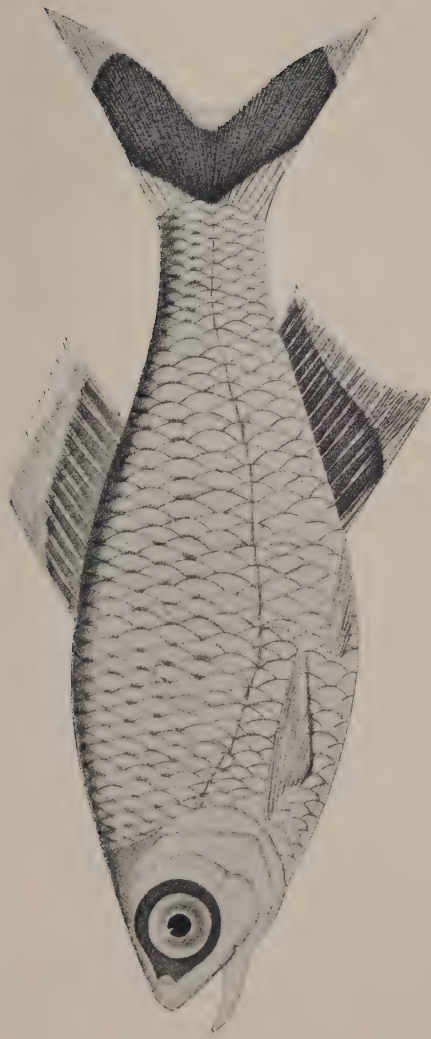
For choice, black seems to be the favourite colour for these little fellows, as well as for Mahseer, perhaps because it is most quickly seen against the light; and a friend, who is a good fisherman, so far believes in it, that he mounts his collar with all three black, such as the black gnat, small black palmer, and like flies black or nearly black.

Why it should be so fancied I do not know, for I do not remember to have ever seen black natural flies on the water in India, except it be little bits of black flies very little bigger than a well fed mosquito. These I have seen in countless numbers, but they are too small to imitate, and are only fitting food for fry, and minnows, and chilwas.

I have noticed and painted red flies and yellow flies which were evidently water-born flies, but they were not in any numbers, and the fish were not sporting at them, so why should I trouble my reader with them? They must remain among the useless notes taken in my endeavour to work out the *rationale* of fly-fishing in India in preference to the rule of thumb. The subject is too big a one to be mastered without very much more leisure at the water's side in all months of the year than I am ever likely to have at command. Will any one else work up the ephemera of India in connection with fly-fishing?

I have also observed the overhanging bamboos covered with light dun flies that were clearly land flies, and remained on the bamboo till disturbed, not seeming ever to fall into the water for the fish. Such flies, of course, are useless.

There is no doubt that fly-fishing, if worth anything as a science and a sport, should be reduced to its entomological basis, and each artificial fly should be a close imitation of some known natural fly in



BARILIUS CANARENSIS.

the habit of living on or near the water, and thus becoming the common food of fish. But if we cannot ascertain the natural flies, we can only do as our fathers pretty generally did in England, and as not a few are still well content to do, namely, to make arbitrary guesses at the sort of fly to be used at certain times and places, with very little reference to entomology, preferring to it, indeed, such crude regulators as the colour of the water, and the brightness or otherwise of the day, to guide our preferences, and after all coming back to this, that if one man has killed with a certain fly, another may. For the *Barilius Bakeri*, then, any small trout fly will do, the black, perhaps, for preference, the size being No. 000 Sneek or Kirby.

It must not be presumed that, because fish are small, they are not shy. There is no sequence at all in the argument. It may be that some small fish are not so shy as the bigger ones, but some sorts again are; and you may be very sure that none bite the better for seeing a biped making demonstrations at them from the shore. None but those which have been fed by hand will be sociable. Therefore, if you go and stand bolt upright at the very edge of the stream, and don't get sport, don't blame me, that is all. Do not you remember how even the little burn trout in Scotland dart away directly they see a Saxon on the bank?

You will very much improve your sport if you will condescend to be careful in this matter, even with small fish, and notably with the Barils. They should be fished for just as carefully as a trout. It is well to remember that fish ordinarily lie with their noses up stream, looking in front of them, and, more or less, on each side of them, for what may be brought down to them by the stream, but not behind them; and as you know that their backs are consequently all turned the same way, that is down stream, and they cannot see with their tails, it stands to reason that if you want to approach them unobserved, your best chance of doing so is from below them in the stream; and this is why the most successful fly-fishermen endeavour always to approach a bit of water from below, and take the best fish throwing up stream, and pulling down towards them, or rather just keeping the line taut while the stream brings their fly down to them. The most convenient plan is to fish a river upwards, that is, to commence fishing at the lowest part of the river you mean to fish over, and to walk upwards as you fish. This saves retracing steps, as you stalk to the foot of each pool

or run you fish. The simplest way to fish any particular bit of water with a fly is to approach crouching, and, kneeling on one knee so far off from the bank that you can only just see and command a little bit of the water, throw your fly straight across, keep your line just taut and no more, and let the stream carry it down and round towards you as quietly as it will, without any pulling from you, and you thus fish first the water where you are most likely to be seen; repeat the process a yard or two higher each time, carefully edging nearer and nearer the while, till you find yourself throwing straight up the stream close under your own bank. These are, of course, only general instructions for thoroughly fishing over water, and cannot be held applicable in all cases; for differently exposed, differently running, waters require to be fished differently, and not a little depends on the generalship displayed in properly availing yourself of every advantage of ground in approaching the enemy's position.

Another argument against fly-fishing from above is, that if you throw your fly downwards, and pull it towards you, you will pull it in the most unnatural way, for no natural fly ever floated up stream. I know that fish *are* caught in this way sometimes, but it is not good fishing, and will not pay as a rule.

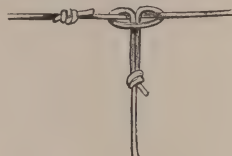
Fly-fishing, it will be observed, is in this respect the contrary to spinning, the rule in the latter case being to pull the bait more or less against the stream. And the same rule obtains more or less in salmon fly-fishing, but then that is not properly fly-fishing, though commonly so called, because no mortal can tell you the entomological specimen of which a salmon fly is a representation.

Perhaps you may say the fish are too small, and not worth all this trouble. So be it. In such case let them alone, and don't fish for them at all. But if you *will* fish for any of these smaller fish just for a change, you may as well catch them while you are about it. This I tell you, therefore, you will not do unless you condescend to take the pains to fish for a Baril as carefully as for a trout. If you are a good fisherman all this painstaking will come to you naturally, as a matter of course, and be no pains.

Flies draw, and rust, and get moth-eaten quickly in India, and should consequently be got from England in small quantities from time to time. They are light, and can easily travel in a letter. Do not buy any that have been kept some time in store in a shop in India

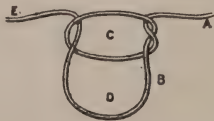
unless they are on eyed hooks, as recommended on page 125. But if you tie your own flies, so much the better.

It is decidedly a point to put on your drop flies neatly, so that there shall be no large knot to make a ripple in the water. Some put on the drop by a loop, but to my mind this is a lazy way, that shows a trifle too much for a wary fish, and yet a great many do it because it is so easy, and there are other knots which I don't think worth mentioning. I like the one recommended by Francis Francis. Tie a simple knot



at the end of your drop, and then with the drop gut tie a simple knot round the gut of the collar, and let it slip down the collar till just over a knot or join in it, and then pull tight. This is very neat and strong and simple, and I confess I generally use it on a fresh collar. But it is not quite without an objection. As you must always tie your drop over a knot you must always tie it just over a join in the line, or you must make a knot in your collar on purpose for it, and practically it ends in this, that you almost always tie on your drop over the same knot, and if you change often,

you fray that spot in the collar and weaken it. So you must remember this, and when you find the collar weakening thus break it yourself, and tie a fresh knot, in preference to waiting till a fish breaks it for you and you lose him. Here is an alternative knot. Wherever in your collar you wish to place your drop fly, tie, in the collar, the knot here shown, being careful only that E. is the end near the rod; A. the end near the tail fly. It is very easily done by making the loop C. and doubling the bit B. through it. The line has not



to be taken off the rod for the purpose, or the ends passed through at all. It is done in a couple of seconds by two turns. Having done this, and taking care that your gut is thoroughly soft from soaking, so that you may be sure it will not crack in knotting, pull A. and B. so that loop C. becomes a tight knot. Put your drop fly, with a simple knot at the end, through the loop D., and then pull E. till D. also is

absorbed into a tight knot. Then pull your drop fly close up to its own knot, and you are ready for action.

What I consider the advantages of this knot are, that it is tied as quickly, if not more quickly, than any other; is as neat as the neatest of them; can be tied in any part of the collar you like, so that you can have your drop fly at the precise distance you fancy from the tail fly; and if a breakage or anything has somewhat curtailed that distance, you can hit it off again to a nicety. This is a point to my fancy, for it makes one unhappy to have the drops crowded together. To move your first drop a length further up will, perhaps, bring it too near the other drop, whereas you had rather it were not *quite* so near the tail fly. This is the dilemma in which you are placed, if you are dependent on the knots at the joins, whereas by my plan you can locate your drop fly just where you have a mind, to an inch. Again, it is superior I think to other knots in the ease with which you can remove your fly. Pull the end A. and the drop, and the knot will open, with a little aid of the nails on the knot. Or if you are not handy at this work, or will not be troubled, nothing is easier than to nip the fly off close up to the gut. You lose next to nothing of the length of the drop thereby; you lose considerably less than you do when nipping off one of Francis Francis' drops. As soon as the drop is removed, the whole knot easily straightens, and a fresh knot is tied, for a fresh drop in a fresh place, an inch or so higher or lower.

I have said be careful in tying the knot that the end E. is the end



nearest to the rod; the reason is obvious. The knot is a slip knot, and therefore a heavy fish on the drop might open it, if it were not so placed that the more the fish pulls, the more he tightens the knot. The end that tightens up the loop D. and keeps the knot at the head of the drop from coming through that loop, is the end E.; E. being made the end connected with the rod, it follows that the more the fish pulls against you, the more he tightens E., and the more secure he consequently makes the knot. I showed this knot

to a friend, who tied it with A. towards the rod, lost his fish and fly, and said it was *my fault*!

For attaching the fly collar to the running line the accompanying Fig. 1 is the ordinary knot. But when you are likely to be fishing on into the dark when it will be difficult to see to untie any knot, you may substitute the second knot, Fig. 2, and you will find that you can untie it with your eyes shut. The finger feels the single knot at the end of the line, the nail closes above it, and you pull that with one hand while you pull the gut collar with the other. The knot comes undone.

The following brief extract from Dr. Day's "Fishes of India," may be useful for reference :—

Order. PHYSOSTOMI.

Family. CYPRINIDÆ.

Sub-Family. CYPRININA.

Genus. *Barilius*.

SYNOPSIS OF SPECIES.

A.—With four barbels (*Pachystomus*).

1. *Barilius vagra*. D. 9, A. 13-15, L.l. 42-44. With 10 vertical bars. Sind Hills, Himalayas, Ganges, Jumna, and Brahmaputra.
2. *Barilius modestus*, D. 9, A. 12-13, L.l. 43. Back dark, sides silvery. Sind and Punjab.
3. *Barilius radiolatus*. D. 9, A. 12, L.l. 56-62. Silvery. Central India.
4. *Barilius shacra*. D. 9, A. 10, L.l. 60-70. Twelve vertical bars. Bengal, N.W. Provinces, and Assam.
5. *Barilius bendelisis*. D. 9, A. 9-10, L.l. 40-43. Short vertical bars : each scale with a black spot in adults. From Western Ghauts throughout India (not Sind) to Assam.

B.—With two barbels (*Bendilisis*).

6. *Barilius barila*. D. 9, A. 13-14, L.l. 43-46. With 14 or 15 vertical bars. Bengal, Orissa, and Lower Assam.

C.—Without or with only rudimentary barbels (*Barilius*).

7. *Barilius Bakeri*. D. 13, A. 16-17, L.l. 38. A row of large spots. Travancore.
8. *Barilius gatensis*. D. 10-12, A. 15-17, L.l. 40. With 15 vertical bars. Western Ghauts and Neilgherries.
9. *Barilius Canarensis*. D. 12-13, A. 14-16, L.l. 38. Two rows of spots. Canara.
10. *Barilius barna*. D. 9, A. 13-14, L.l. 39-42. Nine vertical bands. Orissa, Bengal, Assam.

11. *Barilius guttatus*. D. 9, A. 14, L.l. 44-48. Two rows of spots. Burmah.
12. *Barilius tileo*. D. 9, A. 13, L.l. 70-75. Two rows of spots. Bengal and Assam.
13. *Barilius Evezardi*. D. 9, A. 14-15, L.l. 40. Silvery. Poona.
14. *Barilius bola*. D. 10-11, A. 13, L.l. 88-94. Two rows of blotches. Orissa, Bengal, Assam.

THE INDIAN TROUT.

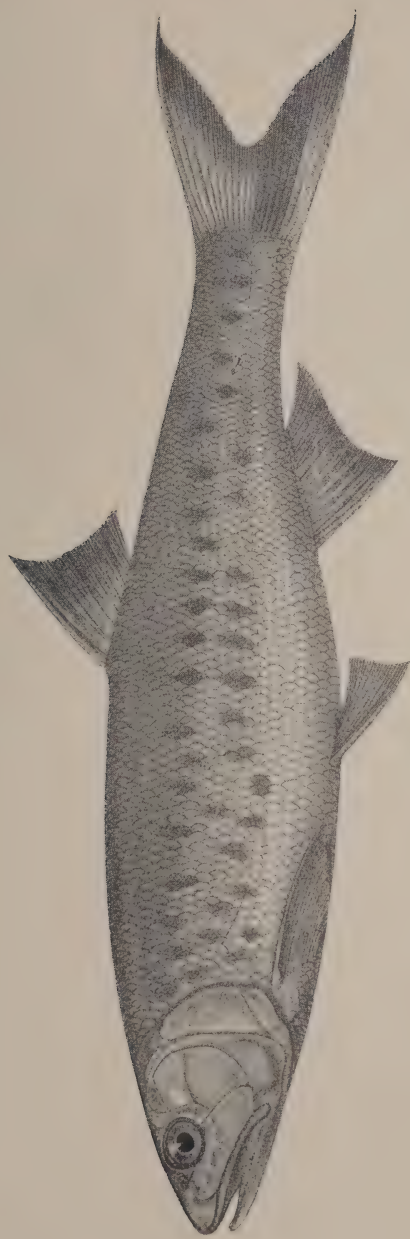
Barilius bola.

When I wrote my second edition I had no personal knowledge of this fish, and was indebted solely to the obliging pen of Colonel Parsons, from whom I will still quote, adding the personal and other knowledge since acquired.

I have called it the Indian Trout, because it is commonly thus called in Northern India. Other competitors there are for the name; but *Barilius bola* seems to have the best title to be called the Indian trout. To avoid confusion, therefore, we will commence by deposing the other fish which seem to have less right to the honourable distinction. *Orienus Richardsonii* has, according to Day, been called the "Kemaon Trout." "In some specimens there are black spots on the sides and head." Of *Orienus sinuatus* Dr. Day writes, in his "Fishes of India," "Some have scattered black and occasionally red spots, and these have been termed Trout." But this fish has a sucker with which it adheres to rocks, which is most untroutlike, and Dr. Day tells me it will not take a fly at any price, a piece of wrong-headedness for which, with your concurrence, it should be shorn of its brevet-rank, in spite of its red spots. *Oh formose puer nimium ne crede colori*—we will degrade you in spite of your looks. "Handsome is that handsome does" is the better rule, and as *Barilius bola* sports like a trout, as we shall see, let us allow his claim, though he has no adipose dorsal fin like the true trouts (*salmonidæ*). We may have the less hesitation in confirming the honorific as there are no indigenous trout in India.

The plate is taken by permission from Dr. Day's "Fishes of India," the mouth only being a little opened to show the peculiarly beaked and prominent under jaw.

"The *Barilius bola* (vernac. Gulábi Machli, rose-speckled fish) by An lo-Indians commonly misnamed Trout," writes Colonel Parsons, "is



BARILIUS EOLA.

found in many rivers of India, its chief habitat being clear streams with stony bed.

"Though not of the Trout genus it bears some resemblance in outline to the European Trout, but is of more delicate formation, and the more brilliant looking fish of the two. Like the Trout it is very beautifully spotted.*

"The weight of the *Barilius bola* of different rivers varies greatly; the average weight of mature fish in streams where it best thrives is probably about $\frac{3}{4}$ lb., and maximum about 2 lbs. This may be an estimate under the mark, as the writer merely notes from his personal experience as a fisherman, as far as it extends, during periods of fishing recreation that were chiefly devoted to the capture of Mahseer, and he has never known the *Barilius bola* to be brought to market by natives of the country, whereby the quantities coming under observation would afford data for satisfactorily deciding on the dimensions of this species of fish.

"The *Barilius bola* is taken with the fly, and likewise with small spinning bait; a small sized phantom is a very good bait to use. They are usually shy, and take the fly best at the close of day, when a white moth (lake trout fly size) is perhaps the most suitable lure, the addition of white bead eyes to the fly I have known to be an improvement. Anglers fishing for Mahseer, with a good sized spinning bait, occasionally hook a good specimen of the *Barilius bola*, notably in the 'Sone' or 'Song,' a beautiful stream which joins the Ganges, a few miles above Hardwar, on its right bank, and which is a grand place for Mahseer-fishing.

"The *Barilius bola* runs large in both the Ganges and the Jumna; in the Doon I have got them close on 2 lbs. at Dādāpur, the head of the Western Jumna Canal, a few miles from Jagadri on the S. P. and Delhi Railway. This fish is, however, difficult to catch in most localities where I have tried them, and I attribute this in a great measure to the frequent presence of Mahseer in their vicinity. It is a marvel to me how any *Barilius* can escape at all from the rapid moving Mahseer, which is perhaps more partial to the *Barilius* than to the young of its own species, which, by the bye, the Mahseer swallows very freely, as I have repeatedly proved to my entire satisfaction in live bait fishing when the devourer has full time afforded to consider the species of his morsel.

"The native fishermen at the Jumna, on the hills between Mussoorie and Simla, use scarcely any other bait than the *Barilius*. They have a curious way of catching their bait. The trout, which for convenience sake we may call them, are excessively keen sighted, and the stream running into the Jumna at this locality where they are taken is of exquisite brilliancy, consequently they very soon clear out of reach on the appearance of a net caster. Their capture is effected by means of a weighted line of horse-hair nooses, dexterously slung across stream well ahead of the fisherman.

* But not with *red* that I can remember.

As he walks up stream, scaring the fish to the line, the trout shoot along the bottom as if to escape observation, and the line being weighted, with nooses all along it across the stream, some of the fish can scarcely fail to run into loops open to receive them, but which draw tight over their shoulders on nearing the dorsal fin. The trout in this stream average under $\frac{1}{2}$ lb., and are easily held by the noose. I have watched the performance with interest, and immediately purchased some of the bait in exchange for English fish-hooks, more prized than money by the fishermen.

"The Barilius is numerous in the Morar near Gwalior; it sometimes takes the fly well, but it is of very small average size in that stream. In the Scinde, another stream in that territory, I recollect many years ago, 'when my lines were cast in those places,' getting a couple of these fish close on 2 lbs. each.

"When fishing for Mahseer, and hooking a Barilius, there is little doubt which is hooked from the first, as the spotted one will jump repeatedly out of the water and dash about in a perfect frenzy and is game to the last; not that I wish in any way to disparage the noble Mahseer, whose peculiarity is the truly grand rush he makes when first struck, and woe betide the line then if all is not clear. This spanking fish, far beyond the pretty little Barilius, has beguiled many a day of my exile and long may he flourish."

And so say all of us.

These Indian trout (*Barilius bola*) have an exceptionally large, wide open mouth, more so, I think, than even our freshwater shark (*Wallago attu*), and are evidently highly predacious, as you may see the small fish of about an inch long fleeing before them everywhere. They take a fly most boldly, no striking is required, as they do it for themselves, and it is evident they take it for a fish, seizing it as they would a fish, not sucking it down as a trout does a fly. Their mouth affords good hookhold, and they fight most gamely. I found it paid better to draw the fly quicker than you would for trout, and up stream rather than down stream; and I noticed that they *pursued* the fly (so that you should not strike till you feel them) coming after it with their head and eyes above water, all indications that the fly is taken for a fish, and not as a natural fly. If you get a rise and miss it, do not give the place a rest as you would for trout, but keep on throwing over your fish. I have had one come two or three times running till at last I have taken him. But if they are well on the feed they will take home the first time. I have had occasions when, for concealment's sake, I had to fish them from below and pull down stream, and I have seen them turn over lazily at the fly, and I had to give them

a helping hand with a strike, but it is not the rule. If you are putting your fly fast enough, say just about as fast as you would have to throw a small spoon at its slowest, they will hook themselves. If you hook one the others will swarm round him out of curiosity, and sometimes take another of the flies while you are playing him. I have thrown a cast of three flies over a shoal, and had one on each fly simultaneously. The rod was a light one of 9 feet that could not lift $\frac{1}{4}$ lb. off the ground, and the fish were all of a size, to wit, $\frac{3}{4}$ lb. each. The first drop was rust-eaten and failed me, but the other two held, and I killed the two fish. When you have two or three fish on at once like that, and each one of them is too heavy for your rod to land, so that you must use the landing-net, and have no attendant, you must play them till they are pretty thoroughly beaten, and take the tail fish first into the net, and so upwards. I had an attendant, but would not let him approach for fear of scaring the pool, as I saw there was a goodly shoal of fish there, and I wanted, and got, some more out of that shoal. It is in very clear water that you fish for them, so you see all their little games, and it adds not a little to the sport. Of course it means also that you must stalk your water carefully, and throw a fairly long line, for a small rod, and a single-handed trout rod is the weapon.

You will find them chiefly in the running pools, among rocks, specially at the head of the pool where the run enters it, but sometimes in the shallows also.

The flies we used at the end of November were the size of a large lake fly or the smallest *fine* water salmon fly, on a No. 6 Limerick hook, but smaller flies are used with advantage, I am told, when the water is very low, a No. 9 Limerick being then preferable.

As to colour a great authority recommended me his pet fly, No. 5 Limerick hook, my scale, body silver tinsel, legs grey, the hackles of the jungle cock do well, wings two large and two small jungle-cock feathers, using the glistening hard piece like a beetle case ordinarily used at the shoulder of salmon flies. Others on the spot recommended either black or red, with silver body. I found black served me best. When they are taking well any colour is accepted.

J. A. Bell, then a Captain, told me that he had taken small fish of two and three and a half inches long out of them, which shows again that they are highly predatory, and that at times a small spoon of three-

ers of an inch in length is bound to be effective. Some use even smaller one.

At Deoli the fish commonly run from $\frac{3}{4}$ lb. to $1\frac{1}{2}$ lb.

The same good sportsman informs me that in the Banàs, Rajputana, they commence taking in October, and the fishing goes on improving every month till January, and is good all January and February, and where there is water enough continues till the rains come any time in June, when they run up stream to spawn; then the small spoon may be used to advantage, and the best sized Indian trout of $1\frac{1}{2}$ lb. are caught in March, April, and May, when also they are found full of young fry, which clearly indicates the suitability of the spoon bait then.

My informant tells me that they are very sensitive of changes of weather, S., S.W., and W. winds being good, but N., N.E., and E. being bad.

Their large head makes them very easy to hold in the hand close behind the head.

A fishing basket is a desideratum, and so is a light landing-net.



The flies should be on stout lake trout gut, and the collar the same.

The long shallows between the pools are affected by the fry of the Indian trout, and their shallowness is their protection from their predatory parents.

I was told of very big bags made of these fish, but as those details are not in my notes I mistrust my memory. Prettier sport than what I had amongst them I could not wish for.

Another correspondent writes :—

“The *Barilius bola* abounds in the Gameri and Burock rivers near Chillere, clear streams, and I have caught them with a fly at Ujjain in the Seepa. I expect they are to be found in the Gumbir near Fatehabad, and also in the Chumbul. I shall be fishing in the Gumbir next October when the water clears.”

Ujjain and Fatehabad are both places on the rail.

Some few more remarks are made on this splendid sporting fish in the extracts at the end of the book, which the index will help you to.

Turning to Day's "Fishes of India," I extract the following portions :—

"Barbels absent. Branchiostegals iii., D. 10-11 ($\frac{3}{7-8}$), P. 13, V. 9, A. 13 ($\frac{3}{10}$), C. 19. L.l. 88-94, L. tr. 12-15/9-11. . . . Head compressed, snout pointed, a well developed knob above symphysis of the lower jaw. . . . Colours : silvery, with two or more vertical rows of bluish blotches along the sides, the upper being about twelve to twenty, and the lower intermediate ; some spots also on the head. Lower half of the dorsal fin slightly grey. Caudal, orange stained with grey and black. Pectoral, ventral, and anal, orange, the colours being somewhat similar to those of a trout ; it often goes by that name amongst Europeans.

"*Habitat* : Orissa, Bengal, N.W. Provinces, Assam, and Burmah, attaining at least a foot in length : one killed in Assam by Mr. Hannay is stated to have weighed 5 lbs. It is a very game fish, takes the fly well, and is one of those termed *Rajah mas*, or 'chief of the fishes' in the Assam rivers.

"*Bugguah*, Ooriah ; *Korang*, Assam ; *Bola*, Beng. ; *Buggarah*, Hind."

While fishing for *Barilius bola* I have taken *Barbus chagunio* with the same fly, and I am informed that they are frequently so taken. So I append its formula, so that you may be able to identify it and couple it with its vernacular name. Day gives these as *Jerruah*, Beng. ; *Chaguni*, Behar ; *Pootee keintah*, Assam ; and says, "it attains at least 18 inches in length." I have taken the same fish with a paste bait, when fishing for his betters.

B. iii., D. 11 ($\frac{3}{8}$), P. 15, V. 9, A. 8 ($\frac{3}{8}$), C. 19, L. l. 44-47, L. tr. 11-9.

CHAPTER XIII.

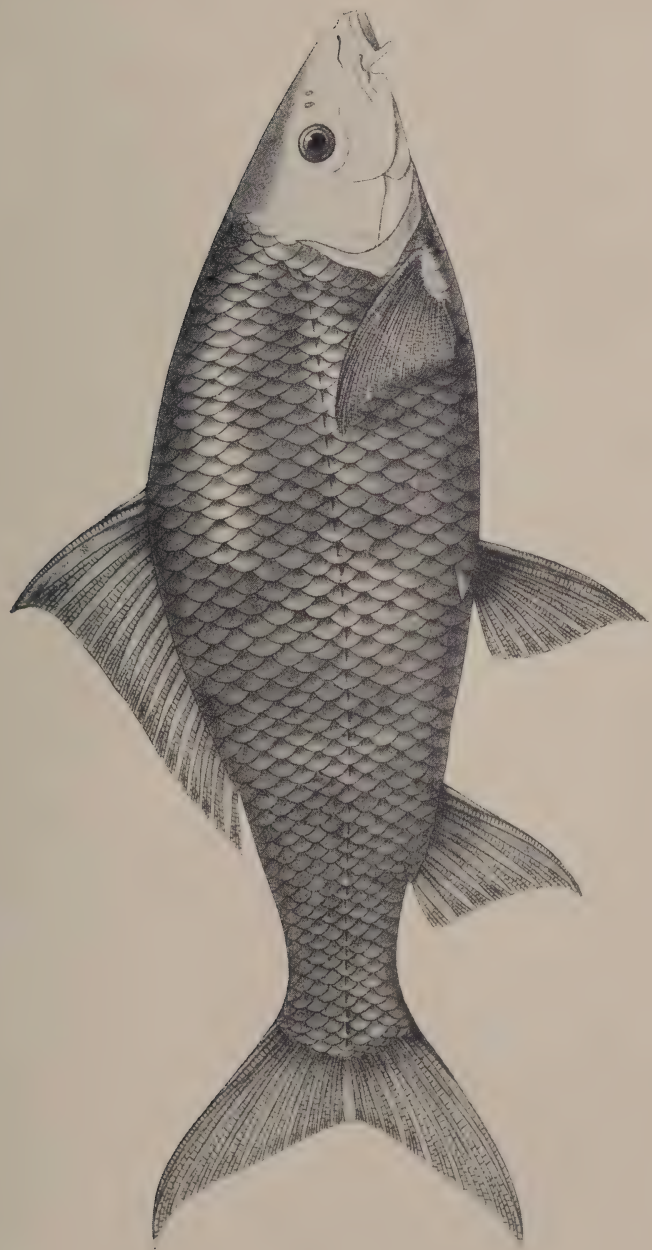
BOTTOM FISHING FOR LABEO.

“Labeo and Flavius set our battles on.
'Tis three o'clock, Romans, yet ere night
We shall try fortune in a second fight.”

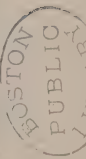
—*Julius Cæsar*, act v. scene iii.

Good roach-fishing is the Elysium of the Londoner. He will tell you that it calls for much more exact nicety and skill than you have any idea of, and he will be right. He will revel in his theme and expatiate upon it. What he would say to you I say again to him. I have his own sport here, the same sort of fishing, only magnified; magnified many fold as regards the nicety of skill required for the capture of the astuter Asiatic; magnified as many fold as regards the size of the fish to be taken. Fancy a Londoner with a roach of 50 lbs. fairly landed. You would never hear the last of it. And fancy him again if all efforts to catch that fish with the ordinary roach tackle had proved futile, because roach tackle was too clumsy for the adept thief of a fish, and he had been driven to improve his tackle. After such a triumph over exceptional difficulties I fancy he would be a talkative Londoner. Is it not fair that I should ask of the roach fisherman that his very love of his favourite sport should make him ready to appreciate highly a style of fishing so very like his own in character, and yet surpassing it in its best sport-giving characteristics? I shall introduce him to a float—my “detective float,” vastly more sensitive than his roach quill; to a rod calculated to strike much more rapidly; and to fish running commonly from 1 or 2 lbs. to 10, 15, or 20 lbs., and of which one of 100 lbs. is recorded as having been taken with a rod. And I may quote an actual bag of a correspondent, whose *nom de plume* is “Meade Shell” :—

“I caught a very large number of fish (chiefly Rohu) last year. On 4th October I landed sixteen fish which weighed 208 lbs., and two other



LABEO CALBASU.



gentlemen caught six more. The largest fish we caught weighed 18 lbs. and the smallest about 12 lbs. In five or six days fishing nearly seventy fish were landed and the tank (1000 × 500 feet) is crammed with fish. The largest Rohu I have caught was in Tirhoot, and weighed 54 lbs."

Sixteen fish weighing together 208 lbs. means an *average* weight of 13 lbs. each. Again I have it recorded that one rod has been known to kill 200 lbs. weight in a day, the fish being from 27 lbs. and 23 lbs. each downwards, the smallest being 2 lbs. Will this content him?

But if such arguments suffice for the roach fisher they will make no impression on the salmon tamer, the Mahseer conqueror, and the fly fisher, who simply laugh bottom fishing to scorn without ever trying it. They scorn, forsooth, because they know nothing about it, whereas, if they only tried it, they would infallibly be converted, for I never knew any fisherman, however good at Mahseer, who had once tried this Labeo fishing with me and was not fully converted to it as taxing all his skill in a higher degree than any other fishing, and as showing sport of a superior order.

But there is yet another class of scoffers, those who believe in the fishing, but not in my methods. For them I cannot do better than quote the words of a convert. Mr. H. S. Dunsford, a "good wine" that "needs no bush," by way of saying he is a good fisherman, writes in the "Angler's Handbook":—

"After many years of excellent tank fishing I would strongly advise those who wish for success in this kind of sport to accept Mr. Thomas's teachings unreservedly and entirely. I have met many sceptics who have scoffed at his insistence upon the use of very sensitive floats, absolute exactness in the regulation of the depth of the bait, etc., etc., and their argument has been that they have done very well without these precautions. This is no doubt quite true. In my earlier experiences of tank fishing I obtained very fair sport myself, though I was very casual in my use of floats, regulation of depth, and so on, but *experientia docet*, and looking back to those days I feel with many a vain regret that if I had only known as much as I do now, thanks to Mr. Thomas's teachings grafted on to my more slowly gathered and much less perfect knowledge, my sport, instead of having been 'very fair,' would have been 'Magnificent' with a capital M."

A friend who had fished with me and was a believer in my methods, wrote me:—

"You would have given £100 to see R. fishing. He had your book in his hand, and was reading it and fishing, and alternately striking

and exclaiming 'It's all lies! It's all lies!' and was nearly flinging the book into the water. The whole first day he caught nothing, while I," says my friend, "took 83 lbs. weight. At last he got home on a fish, broke his rod in two, and swung cut a 2-pounder so hard against the high wall behind him that it was stunned. 'There's something in it,' he said. Then he silently mended his rod and mended his ways, and after two days got well into it. R., let me add, was exactly described by anticipation at page 42 of 'Tank Angling.' 'And when you have told them everything, and they come to putting it in practice, and sit by the water and miss bite after bite, as we have done, they will only say you are lying,' said one of a fishing party."

When I was yet a stranger to the Rohu and knew only the Madras Labeos, I heard of an angler who had taken them for twenty years, and was the authority in those parts. So I went two hundred miles to see him and learn of him, and he most kindly responded to my request and came sixty miles to meet me and show me all he knew. I was first at the water, and was at work when he arrived. He at once condemned my tackle and offered me his own. I begrudged the time that would be lost in changing, and persuaded him to put up his, promising to change as soon as I saw him killing fish, fully believing that I should have to change. He used a big float made of a bundle of five peacock quills tied together at both ends, and he cast far out into the tank. I used my light "detective" float, and had it immediately under the tip of my 10 feet rod. Otherwise we fished alike. He was a good fisherman who had killed his own weight many times over, and was naturally well content with the tackle with which he had done it. I was not a little surprised to find that nevertheless I killed twenty fish to his one, and much larger ones. What could be the explanation of it? I wasn't going to be such a "silly" as to put it down to my own good fishing, for there we were probably quits, and he had the unquestionable advantage of experience of his own country and climate. It must be in the tackle I thought. But why? Why should his, which had stood the test of twenty years, be inferior to mine, tried for the first time in waters new to me but well known to him? We must have an adequate reason. I had come two hundred miles to learn it. So chatting away like two conspirators I learnt much of him, and eventually came to this conclusion. He knew the seasons of Northern India well, and conforming to them, fished only in the rains, from "15th of June even up to September," and considered 21st April, when he met me, so hopeless

that he would not have tried except to please me. In the rains the Rohu bite boldly, and for bold biting his float was not too coarse, nor his distance too great, the striking not needing to be so prompt. But biting as the Labeo were in April, and always would be at that time of year, he, not seeing his bites, clung to it that they were only the bites of small fish. No mortal could have seen those subtle bites at the distance out to which he cast his float even if he had been using my more sensitive "detective," much less with his coarser float. With my little "detective" float close under my rod tip the bites were clear enough, and I struck when the sharp little jigs followed each other in rapid succession, and the fish taken ran up to 15 lbs. and 20 lbs. each, whereas his biggest was 2 lbs. He was a typical instance of the Rohu fisherman who having caught Rohu freely when they were biting boldly, thinks that is the only way and time to take them, and that there is nothing more to learn. He is not a whit different from Mr. Dunsford's many scoffers, and while instancing him as a type in detail, solely for the purpose of convincing argument, I trust I have concealed his kindly identity among the vast crowd of such anglers ruined by too easy successes. In this kind of fishing too easy successes are the ruin of many a good man.

My argument then is that my methods are suitable both for bold biting and shy biting, and extend the period of good fishing over many a day and month when it must otherwise be blank or poor indeed.

Hoping that I have herein convinced both the inappreciative and the scoffer, I will proceed to my fish, first giving just one little tiny true tale for the better content of the inappreciative of the size of the fish offered for their sport.

A writer in the *Asian* of the 15th of May, 1888, F. G. G. O. by name, tells a tale, headed "A True Story," which is too spicy to be lost. Fishing with a paste bait, he eventually landed, hooked in the lip, a Catla which scaled 77 lbs. But in the course of the play an erudite English-speaking native brother of the angle, counselled him in this wise :—"Do not as yet endeavour to coerce him, he is of great strength, and you should wait until his powers are somewhat diminished. Ah ! sir, do not as yet anticipate, his force is not yet evacuated, and he will still afford you much trouble." Many natives are excellent fishermen, much devoted to the sport, and with something to teach us, as we shall see anon.

In "Tank Angling" I said I had a personal acquaintance with only four of the Labeos, but since then I have extended my visiting circle, and have become quite intimate with the grand Rohu, the sprightly Mirgha, and the massive Catla.

The heroes of this chapter are the Rohu (*Labeo rohita*), which attains three feet or more in length, and has been caught on a rod up to 54 lbs. in weight; the Kalbans (*L. calbasu*), and *L. Kontius*, which grow to 3 feet in length, and have been recorded as weighing 20 lbs.; and other Labeos proper, as *Labeo fimbriatus*, and *L. nigrescens*, and *L. bata*, which are half the size of *L. calbasu* and *L. gonius*, which attains nearly 5 feet in length, probably nearer 70 lbs. than 50 lbs. in weight; the Mirgha (*Cirrhina mrigala*), growing to 3 feet in length, and taken with a rod up to 34 lbs. in weight; the White Carp (*C. cirrhosa*) of $1\frac{1}{2}$ foot in length; and the Catla (*Catla Buchanani*), attaining at least 6 feet in length, and recorded as having been taken up to 100 lbs. on a rod.

But as I have already filled more than half a separate book with this subject it would not be right that I should swell these pages with repetition. I will rather presume you to be the happy possessor of that little volume "Tank Angling in India," and I will here set down only the additional matter that I have acquired since that little book was published in 1887.

Fishing in Waves.—It was always an admitted difficulty that if there were waves no float could show the minute jigs of these peculiar fish when biting shyly. A way of meeting this difficulty has since been found. In the Hassan Sagar tank at Hyderabad in the Deccan, the fishing is from the embankment, with 30 feet of water at your feet, and in December the prevailing wind sweeps across the whole breadth of the magnificent reservoir straight towards you, raising, not a ripple only, but a decided wave on the surface, breaking with a plash at your feet. No float could be of any use at that season of shy biting. In the bold biting season, when a Rohu would take under even a pike float, it would of course be easy. But in December if the float was, as it should be, so sensitive that the weight of the bait would pull it under, then, at every wave, being out of its depth, it was submerged; and with a float one moment under water and the next on its side, it was impossible to see a bite, much less the critical jiggling. If, on the contrary, the float was buoyant enough not to be submerged,

then it was both too unsensitive to show the shy bite even if you got one, and it prevented your getting one by lifting the bait off the ground at every wave, and keeping it in constant unnatural movement, for, the water being 30 feet deep and still, all should have been motionless at the bottom. For meeting this difficulty the natives had, I noticed, a very ingenious plan. They fished with two rods with one bait. One rod, holding the reel and running line, was laid aside in preparedness to play the fish when hooked. This rod was really only a short 6 inch butt. Therein I thought they were at a discount in playing, and that one of our rods could as easily have been used. The other rod was a very special one. It was 4 feet long, made of the *finest* branch of bamboo they could get. They said they cut twenty such branches before they got one to suit them, and when they did, you could see how they prized it by the way they painted and decorated it. But the finest of the fine branches suffices not, and they whip on to the point 6 inches more of the silicious part of a big bamboo, fined down as fine as they could cut it. To the top end of this light rod they tied the tangoos line coming from the bait, and to the bottom end they tied the running line coming from the short butt. You will observe that there was no light running line between the light rod and the bait, because it would have lessened the sensitiveness. There was only tangoos, their equivalent to our gut. Then having baited, and using no float, they flung out the bait so far that it carried the little rod out also. Then waiting till the bait had reached the bottom, which was there some 33 feet, they drew in the running line till they recovered the little rod, and thus secured a taut tangoos between the little rod and the bait. You might gain the same end by having a very light ring at the tip and letting the line run through till you had got the right length, and then stopping it with the hand. When a bite came you could see every movement of it indicated by the sensitive top of the little rod, which was in effect their float. You could feel it also coming down the exquisitely light rod, but they went by sight. With this rod they struck *hard* with the whole arm. There was no fear of a break, as it yielded so easily, and a hard strike was in consequence necessary. If the fish was small they played it with this light rod. If it was large they flung in the light rod, and took up the butt, and played the fish from that, the light rod then becoming only a part of the running line, and disappearing under water during the play.

They used a No. 9 Limerick hook and a very light sinker. But I do not see that it need affect the principle whether you follow their plan or ours in the size of hook and manner of weighting. They said they caught fish up to 20 lbs. in this way, and they were catching fish by this method when, from the waves, we could do nothing at all with the detective float. Still, when there was no wave a detective float, even at the depth of 30 feet, beat them more than twelve to one, fishing near each other.

They also used a second unbaited hook hanging free from a separate tangoos about an inch below the baited hook. It is the counterpart of the plan mentioned at page 56 of "Tank Angling." In consequence of there being no Rohu in Southern India, and other Labeos being, even in the rains, more subtle biters than the Rohu, that bare second hook has come to be generally used. And it cannot properly be called stroke-hauling or snatching, for you can never see your fish to catch him foul by sight, and consequently it can never be used without the fish biting, and you never catch any but the individual fish that is actually biting, and not even that anywhere foul about the body, anywhere except in the mouth or close to the mouth. It is no more unsportsmanly than the free hook at the tail of a spinning minnow, or the flying mount of two or three trebles that whirls round and round a spun bait and catches foul many a fish that has not actually taken the bait in his mouth. It is less so from the free hook in paste baiting never coming into play till the bait has actually been taken into the fish's mouth and the biting has continued for some time, and it is never relied on to vary the time of striking and to strike otherwise than with a view to catching on the baited hook. I have known the fish bite so warily that a party of four rods in four days could not catch a single fish except on this extra hook. It is such peculiar fishing that makes the extra hook at such times allowable. I see from newspaper notices that it has equally been used by English sportsmen as well as natives in Northern India, where the bites are often much freer than in the South. And so it comes that honest anglers have asked me to say for it what can properly be said for it as fair fishing.

Instead of one free hook one inch below the bait as in "Tank Angling," it is now preferred to use two at a distance of two inches. Two No. 6 Limerick hooks are knotted together by the gut being

passed twice through the eyes and then tied in a slip knot, so that when pulled home the hooks must lie back to back. To prevent their standing out they are then whipped back to back with silk. With a clear space of two inches above them on the same gut is the No. 6 Limerick hook for the bait. When the gut is well soaked and soft, the double hook at the tail is concealed in the mud from lying flat at the bottom, which a treble hook could not do.

Another difficulty has been the fishing in rivers. Mr. J. S. Aldwell tells me he has succeeded with the Naraini, which, from his description of it, as having red fins and tail, and a fimbriated mouth—*i.e.*, a mouth with a frilled edge—would seem to be one of the Labeos. He took them as much as 2 feet long, and thick fish, in the running water below the Okhla weir, with thread weed, on a No. 4 Limerick hook, without float or sinker, working it up and down near the surface, and striking sharp on their biting. There was at the time only a little stream, the sluices being all closed. Others say the Naraini is the Mirgha. I have had no opportunity of identifying the fish under the vernacular name. Possibly the Hyderabad plan above given might also serve in rivers. It is in rivers that they have beaten us hitherto.

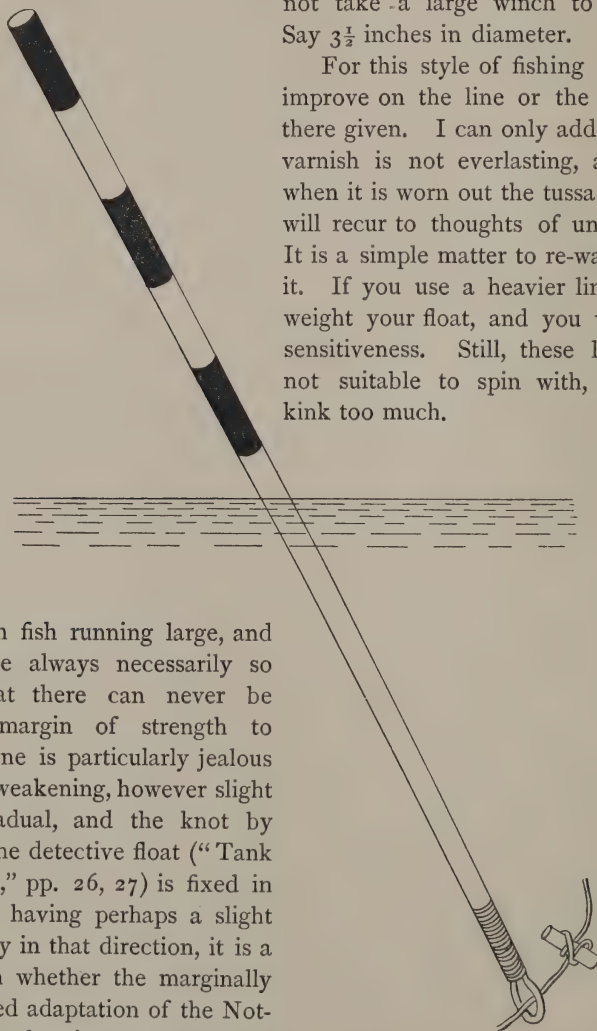
Anglers who know their fish well enough by their vernacular names do not always know the scientific equivalent, and as vernacular names are often used somewhat laxly, and differ with localities, it is not always easy to connect them with the right fish without seeing the fish oneself and identifying it. Thus I found the vernacular name Rahu, Rohu, and Rohi, used indifferently in Northern India, to include sometimes Mirgha and Kalbans, and I was told it was also loosely used to cover all large carps except the Mahseer, as Kendai is in Tamil. I was puzzled, too, about Kalbans till I found it was the popular abbreviation of the more correct Kàlabans, the *n* in Kalbans being silent. Hence *Labeo calbasu*.

If you use the soft lead wire sinker advised in "Tank Angling," page 30, you will need the long shank of the Limerick hook; but if you dispense with a sinker then the Rohu hooks made by Messrs. S. Allcock & Co. of Redditch, and figured at page 123 *supra*, are built on purpose for you.

I have said in "Tank Angling" that 30 yards of running line was ample, but I did not then know of Rohu and Catla running up to the size they do as capturable by this style of fishing. I should

now say 150 yards would be better. The tussa silk line recommended being only one-thirty-second part of an inch in diameter it does not take a large winch to hold it. Say $3\frac{1}{2}$ inches in diameter.

For this style of fishing I cannot improve on the line or the dressing there given. I can only add that the varnish is not everlasting, and that when it is worn out the tussa silk line will recur to thoughts of untwisting. It is a simple matter to re-waterproof it. If you use a heavier line it will weight your float, and you will lose sensitiveness. Still, these lines are not suitable to spin with, as they kink too much.



With fish running large, and the line always necessarily so fine that there can never be much margin of strength to spare, one is particularly jealous of any weakening, however slight and gradual, and the knot by which the detective float ("Tank Angling," pp. 26, 27) is fixed in position having perhaps a slight tendency in that direction, it is a question whether the marginally illustrated adaptation of the Nottingham plan is any advantage.

The stop is a bit of a match with the edges rounded off, the knot a double hitch. As I had left India before I thought of it I have not

been able to submit it to the test of thorough personal trial, as I like to do, before commending anything to my readers. If it is no improvement then it must be accepted that our good little detective float is too true a friend to be dropped for this minor suspicion of a drawback. The india-rubber caps used in roach fishing are not likely to be of any use, both because india-rubber perishes so rapidly in an Indian sun, and because the float is not suited to their use.

In "Tank Angling" it was rather a presumption (pp. 13, 14) than an ascertained fact, as it now is, that the Rohu, the Mirgha, and the Catla could be taken by the same methods as the Labeo of Southern India better than by the rougher methods formerly followed. Rohu and Catla have also been taken with small fish, spoon, and Phantom, and Catla are said to be very destructive to small fish. But paste is the standard bait.

For Catla the following remarks by F. R. O. G. are worth considering and experimenting upon :—

"I had been fishing with little result, and had gone to observe some natives who were fishing near. I saw they were tearing their hair over something and soon saw the cause. It was evident to me by the large bubbles that a Catla was around; they saw too that a fish was there, but what fish they did not know, and so they went fishing along, bait on the ground, and getting nothing but nibs as the soldiers did (p. 51 in your book). Now for a Catla one must, I think, fish with the bait off the ground, for his mouth would seem to be formed to take bait from above and not off the ground. At any rate I called for my rod, quietly shortened the depth and caught that Catla at once. That was the only one I got last year, for they do not seem to come to ground bait as other fish do; that also would be accounted for if my theory is correct that they do not feed off the ground."

I have only taken them myself when fishing on the ground for Labeos. But one foul-hooked about an inch behind the eye, showed from the position of the hook that he must have been over the bait, head downwards and tail upwards, trying to take the bait off the ground in that uneasy fashion. Being 22 lbs., and hooked as he was, and on a rod weighing only 8 ozs., he was as good as a 44 lbs. fish on such a rod, and showed good sport, which seemed to be much enjoyed by a big gallery.

Ringol rods are the better for being oiled when laid by, not varnished, as otherwise they are apt to split during the hot winds.

The oil dilutes the cobbler's wax on the whipping of the rings and top. You will do well, therefore, to first dress the whipping only with liquid glue, or with sealing-wax melted in spirits of wine. If thin it will penetrate and bind the whipping as well as protect it.

The cased rod-top ring, recommended for Mahseer, should be used in this fishing also, as I have had a brass one cut in such grooves by a single 24 lbs. Catla that the line hitched in the grooves.

For paste bait I would add to the recipe given at page 34 of "Tank Angling," that the ground nut should be ground *very fine*, and bran omitted. You will then get a bait of the consistency of fresh putty.

With a good tough putty-like paste there is no necessity for mixing cotton with the paste, as some advocate. I dislike it myself, because some of it remains on the hook every time you strike, till you very soon get a bale of it hanging about the barb.

In Northern India wheat flour is to be got in any village bazaar, as it cannot be in Madras. Therefore, while the above recipe may be retained for the Madras Presidency, I was converted in Northern India to wheat flour, and saw it well made up as follows.

Recipe.—Mix wheat flour and water into a good stiff dough, as if for making pastry; roll it into a ball, and put it into a pot of boiling water over a quick fire, and boil briskly from twenty minutes to half an hour, probing with a fork or skewer to see if it is agglutinated or sticky inside. When it is, take out the lump, and, when cool enough, knead it very thoroughly. The result will be a very stiff and white paste. Add any scenting matter. But it may be made too stiff, the hook not passing through it readily enough to hook the fish. When it is so stiff that it does not fall off the hook on striking for a fish, it is too stiff. This fault can easily be remedied at the waterside by kneading it up with a little more water.

I am told linseed, well roasted whole, and mixed in balls in clay, makes a good, strong-smelling ground bait, and that linseed cake, well roasted, may be used in the same way. The latter is *Tisi-ka-kalli*.

I have found that bran and asafetida mixed, and used as a ground bait while fishing, acted excellently.

You will remember that Rohu and others can be caught by day or dusk or night with a ground line, as mentioned in Chapter X., p. 145, *supra*.

Season.—I was told by what was considered the best authority that the season for this fishing in Tirhoot is from July 1 to November 15, the very best months being September and October, and the time before September being better than that after October, though it was also possible to have sport in the cold season. For the Punjab I was told, again on good authority, that from April 1 to the end of October was good. The natives about Calcutta mostly leave off fishing at the end of September. I had sport myself at Rohtak in the middle of November with Mirgha; but all fish had a good deal gone off the feed, Rohu and some others entirely, and it certainly was past the season.

For the Madras Presidency, March to October, with May and June for preference. Only on occasional warm days will you do any good in December, which is rough, as that is when Madrassesees get their annual holidays.

For Okhla the following were given me as suitable times, and were taken by a good fisherman not from lax memory, but from a written record of his bags. *Mahseer* commence at the end of February, the earliest noted being the 12th, 20th, and 26th of February. *Batchwa*.—A few by the end of February, March better, April shows heavy bags. *Moh*.—End of April and beginning of May. *Tengara*.—Middle of March. *Bouli* or *Bawali*.—End of February. *Silund* and *Catla*.—Middle of March and beginning of April. *Kalbans*.—Beginning of April. By the first week in June the river generally gets flooded, when fishing ceases.

I quote the following exactly as it has been kindly written for me, without any personal knowledge of my own:—

“Take a bamboo sufficiently long for the thinner part of it to project three or four feet above water while the lower part is firmly stuck into the bottom of the tank at a convenient casting distance from the place where you propose to fish. At a suitable depth, say half way down the bamboo, bind water weeds round it so as to form a cushion. Outside this put a handful of worms, wrapping soft string round so as to bind them firmly to the cushion. You have then a ball with worms outside and weeds inside which keep the worms from being crushed against the bamboo.

“Now adjust your line so that the baited hook shall be exactly on a level with the ball of worms, and have the bamboo stuck into the place previously selected by you. It will at once be surrounded by shoals of chilwas and other small fish, but it will not be long before the Rohu make their

appearance. This will be notified by the bamboo jiggling to and fro as the fish tug at the worms. Now is your time. Having put a worm on your hook drop it *very gently* as close to the bamboo as you can. 'Aha!' thinks Mr. Rohu, 'here's a worm got loose at last,' and he bolts it incontinently. Then get him away from the bamboo as soon as you can, both to avoid fouling your line and to keep the other fish from being frightened.

"When the bamboo ceases to jig it is a sign either that all the worms are gobbled up, or that the fish have gone off the feed. Pull up the bamboo and in the former case prepare a fresh ball of worms. In the latter case either give up fishing for the day or pitch the bamboo again as far as possible from its first location, so that you may have a chance of attracting fresh guests.

"The dodge is much practised by Bengalis and is very killing. You can see at a glance when fish are on the feed, and your risk of having the bait stolen is very small. I especially recommend it to anglers who, unlike my friend Blank, have not the patience to sit for hours at a time waiting for a bite."

Another, while confirming the above generally, adds the rider that the plan is useless unless there is fresh water in the tank from rain. This I can well imagine, because it would be in rainy weather only that worms would naturally come to the surface of the soil and be washed into the water, and fish be expecting them. In the dry weather they would naturally lie deep in the soil. They do so in England, much more must they do it in the tropics.

Worms dug up from damp soil near a water channel, e.g., at Rohtak, were as large as English lob worms and very tough, but got very flabby the next day. They haven't the stamina of a Britisher. They were shown me as a bait used for *Wallago attu* and *Tengara*. Why not for Rohu also, according to this plan? Would it not be a sort of *magnum bonum* plum to him? At any rate a *magnum*. Tastes differ!

Weather.—Changes of weather are also factors; cold winds, and thunder, and impending rain having, even in the height of the season, the same unappetizing effect on all Indian fish, from the Mahseer downwards, as one recognizes in England, though they will bite well when the rain is falling heavily. An occasional warm day will sometimes bring you fair sport when it is otherwise too late to expect it.

Seeing how fish are off the feed for days and months together,

and then suddenly ravenous on a change of weather, a fisherman's wife remarked that it was very lucky the gentlemen were not the same, or it would be very difficult to cater.

I have come to the conclusion that the bite varies much more with the weather than with the place being much fished; indeed, I doubt if the latter has anything to do with it in the case of these particular fish. If anything much fishing rather benefits these adept thieves than otherwise. Just look at the amount of bait that is given them gratis by one of your promiscuous fishermen, who fishes not specially, as for Labeo, but as if all fish were alike, and all paste bait fishing the same. I have seen such an one getting splendid opportunities, but persisting in fishing as if for roach. Of course the fish were having a rare old time of it stealing his bait, and like so many professional diners-out, getting their dinner for nothing. Like them too, doubtless, if we only knew, they complacently recall its quality: "The soup was good, the fish was good, the *entrées* were good, the joint was good, everything was good, the liquor, etc., etc., but the host was an ass." The percentage of fish killed to fish fed is, with the promiscuous man, very small. He thinks he is fishing, but practically he is only ground baiting!

When choosing your place for ground baiting, especially if you are going to have a stand erected, it is well to note whether the water will be under the lee of the bank, so as to have the minimum of ripple, and whether you will have the glint of the evening sun off the water in your eyes. Both matters interfere with sport. If the wind or the shade shifts in the course of the day, ground bait two places on opposite sides of the reservoir.

A Calcutta fisherman writes: "As regards a level bottom for fishing, we obviate the difficulty by sending down a diver; he takes four annas and levels your ground."

I have found my tackle-box very convenient for bottom fishing. It is strongly made of $\frac{5}{8}$ -in. teak planking, so as to form also a convenient seat at the same time as you have under you the means of readily replacing breakages. You will find it in the Chapter on Tackle.

In striking I do not use only the wrist, as I might with trout or roach, nor do I use only wrist and elbow; but I strike with one arm from the shoulder, simultaneously using the muscles and joints

of the shoulder, of the elbow, and of the wrist, and thus, I believe, accelerating the stroke by three concurrent means. This was N.'s manner of striking, the N. mentioned in "Tank Angling" as a very professional at Labeo fishing, and when I see a thing pay, as it did with him, I copy it.

I am told by a member of it that the Calcutta Angling Club have turned into their tanks twenty-five thousand fry of Rohi, Mirgha, and Catla from about 4 to 6 inches long at Rs. 6 a thousand, and have killed in those ponds, which are preserved by them, Rohi up to $21\frac{3}{16}$ lbs. and $22\frac{1}{2}$ lbs., and Catla up to 19 lbs. A pleasing record.

Their former rule was that all fish under 3 lbs. were to be returned to the water. They have now altered it to all fish under 16 inches in length. They did so on October 28, 1895, while my letter, advising them to take that very step because of the difficulty of gauging 3 lbs. without weighing, was dated from England October 29, and I had been thinking of them the day before. One of them calls it telepathy. At any rate, I may say with Horace: *Utrumque nostrum incredibili modo consentit astrum*. *Quere*, had Horace any hazy ideas of the brain wave and telepathy?

CHAPTER XIV.

FRESHWATER SHARKS.

“FALSTAFF : If the young dace be a bait for the old pike, I see no reason in the law of nature but I may snap at him.”

HENRY IV. 2nd Part.

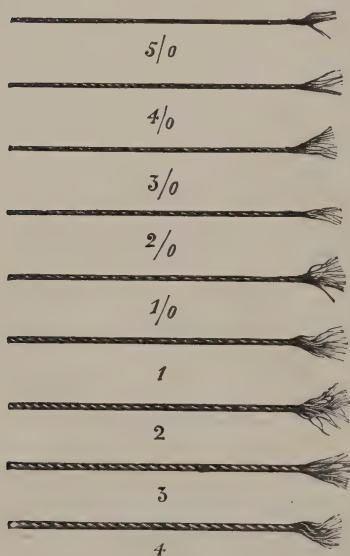
Wallago attu.

Wallago attu (Tamil, *Vàle*; *Gwali*, Punj.; Hindustani, *Bawàli*, *Boàli*; *Làtchi* and *Mulley*, and *Bawari* of Tirhoot; *Lànch* and *Lànchi*, of Deoli; Assamese, *Baralié*) has been treated as a pond fish in “Tank Angling,” because he is seldom fished for in rivers, Mahseer there claiming prior attention, and is always present in reservoirs that are river fed. But he has therein been treated with scant courtesy because he came in our way when better employed with Labeo, and when so employed I would not advise any other way of fishing for him than I have therein set down. But if you prefer to devote yourself entirely to him, or come on a reservoir, as I have, where the circumstances were not suitable to labeos, and there didn’t seem to be any, you may have very good sport out of him by substituting your light labeo rod for your pike or salmon rod, and spinning with a small fish the size of your forefinger, or even with a small $1\frac{1}{2}$ inch spoon. With such light tackle they give excellent sport, as I found in a reservoir shown me by Mr. H. S. Dunsford, and induced, as I was, to try it by the record of his bags. Between 9 A.M. and 10.30 A.M., he killed 11, weighing together 40 lbs., the biggest being 10 lbs. After breakfast he killed 9 more, weighing 45 lbs., the three biggest fish being 12 lbs., 10 lbs., and 8 lbs. Then trying another pond he took 12 more weighing 30 lbs., which makes a total for the day on one rod of 32 *Wallago attu*, or as they are called in those parts, *Mulley*, weighing 115 lbs. Half of these were caught on a $1\frac{1}{2}$ inch spoon, half on fish. In another place he

took 27 fish weighing 70 lbs. on live bait, hooked only through the nose, and pulled slowly along, sometimes on the bottom. Also 2 rods killed 130 lbs. in one day. These good bags were made in May and June, but even as late as mid-November I have had very fair sport with them at Kurkonda, when I was agreeably surprised by the amount of play one of 11 lbs. showed on a 10 ft. labeo rod, with fine tussa silk labeo line. He had it all his own way till he had some 50 yards of line out, and then fought gamely against coming in.

In the same chapter of "Tank Angling" I have descanted at some length on wire as preferable to gimp

or gut for this fishing. That may all now be thrown aside as ancient history, since the yearning after a good wire trace, started in India, has found an echo in England, and tackle-makers have given their attention to it, so that excellent spinning traces are now to be had of several makers. The best preparation of wire that I have seen is the "patent rust proof wire gimp" of Messrs. S. Allcock & Co., Redditch. It is pliable and composed of a compound of metals that do not rust. From the sizes illustrated, and the breaking strain as under, you can choose the thickness you prefer. I should say No 2/o with a breaking

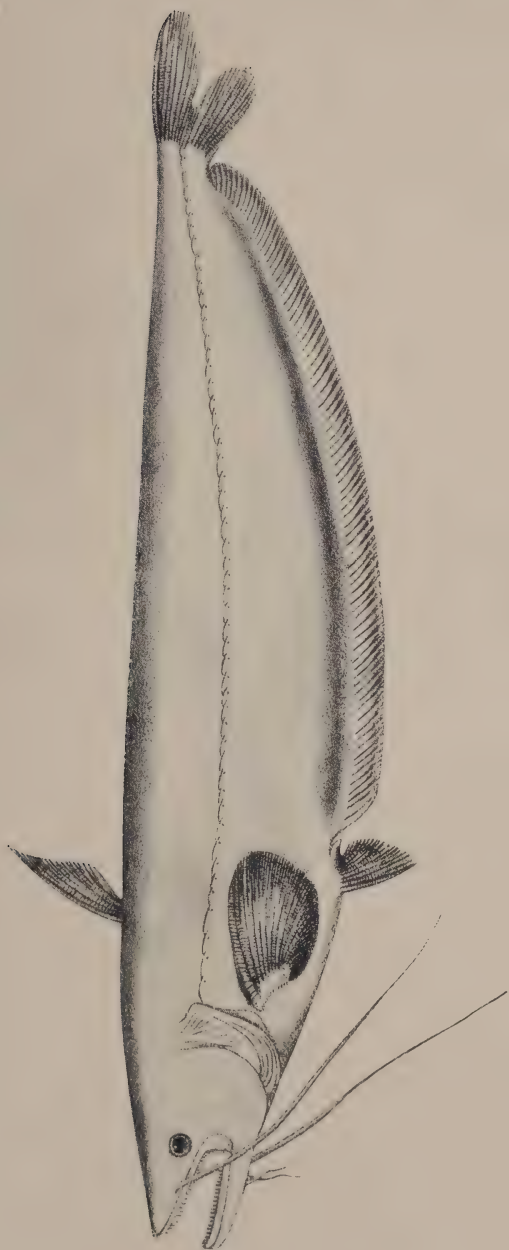


strain of 25 lbs. would be the most generally useful. It is cheap, about two or three pence a yard, and you can mount your hooks on it as well as have traces of it.

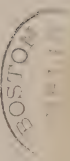
Breaking strain	8	12	21	25	30	40	60	..	..	lbs.
Gimp No.	5/0	4/0	3/0	2/0	1/0	1	2	3	4	

But the makers are wholesale manufacturers only, so you cannot buy of them in retail. Your tackle shop will manage that for you.

Freshwater sharks will also take a dead bait on a gorge hook, as figured in the Chapter on Eels.



WALLAGO ATTU.



It is to Dr. Collis I believe that we owe the first idea of wire traces for Mahseer fishing. *Palmarum qui meruit ferat.*

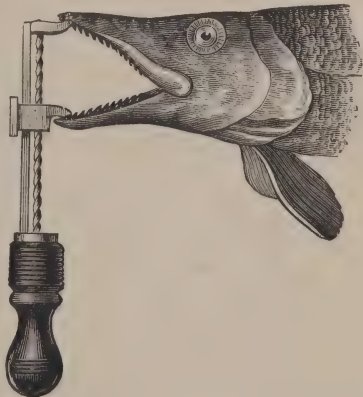
For the small fish of a forefinger in length the Richmond or Coxon spinners may be used trout size, mounted on No. 4/0 wire gimp with No. 9 treble hooks. But if you prefer a bigger bait you can use the same spinners as tied for Mahseer on No. 2/0 wire gimp.

For *Wallago attu* a gaff is specially useful. You have your choice above at page 19. So is a rod rest when fishing with live bait. See page 142 *supra*.

However dead the fish may seem, never dream of attempting to take out your hooks without securing yourself against his closing his awful jaws on you, by firmly wedging his mouth open with a log, or stone, or gag. And a disgorging will be found useful.

Season and Weather.—As far as my own experience goes Siluroids and Murrel follow the same habits in relation to seasons and weather as do

other Indian fish, taking generally best in the warm season and on warm days, and not as pike, in the winter. On this head Yuba Bill's remarks under Goonch may be referred to.



Bagarius Yarrellii.

This fish has improperly got into "Tank Angling." He is essentially a river fish, so I will bring him back again into this volume.

Bagarius Yarrellii is another predatory monster siluroid, big enough surely to satisfy any one. The one shown in the annexed woodcut scaled 136 lbs., and was 5 feet 8 inches long from the lip to the end of the tail, and 5 feet to the fork of the

tail; the circumference of the head being 3 feet 4 inches. The marginal drawing is taken from a photograph kindly given me by Mr. Cyril Kirkpatrick, and the fish was caught by his friend Mr. Van Cortland, in the Jumna, at Okhla, at the head works of the Agra canals, on the evening of the 11th May, 1875. The history of the capture is given in the *Field* of 24th July, 1875. It would seem that



it took a Rohu, or *labco rohita*, "of 12 or 14 lbs." which was hooked foul and being played, and ejected it as fish will, in the effort to get rid of the hook, while being played. As it is probably the largest fish yet caught with a rod and line in India, I must present a plate giving a side view of it. Plate XI. The Plate was originally copied by permission from Dr. Day's work.



BAGARIUS VARRELLII.

The Punjab name is *Goonch*.

Mr. Cyril Kirkpatrick has kindly given me the following bag, taken from his note-book, which is reliably exact, the facts having been recorded *at the time*. The fish were caught in his company by Mr. Aldwell.

16th March, 1881,	134, 103, 94, 87, 79, 18 lbs.	= 515 lbs.
20th " "	74, 63, $51\frac{1}{2}$, $40\frac{3}{4}$, $21\frac{1}{2}$ lbs.	= $250\frac{1}{2}$ lbs.
27th " "	$72\frac{1}{2}$, 63 lbs.	= $135\frac{1}{2}$ lbs.
10th April,	164 lbs.	= 164 lbs.

i.e., in four days on 1 rod fourteen fish weighing 1065 lbs.

They wanted to clear them out, because they were troublesome when Mahseer fishing, sulking and smashing tackle. Therefore they used the strongest of tackle, a male bamboo or ringol, on which they played them till they sulked, and then they simply hauled them out, hand over hand, on a cord as thick as a pencil.

Then followed in the note-book the entries:—

15th April,	12 lbs.
24th " "	12, 15 lbs.

And then the remark "no more caught that season," from which it would seem that they had succeeded fairly well in clearing out "the sulking brutes."

Here a communication to the *Asian* of 27th February, 1883, by Yuba Bill will interest my readers:—

"I am much obliged to 'Rod' for his kindly notice of my inquiries regarding Goonch in the penultimate issue of the *Asian*. The fish to which I alluded is, as he suspects, the *Bagarius Yarrellii* shown in plate 18. (now xi) facing page 170 (now 209) of 'The Rod in India,' and the place is Okhla, seven miles from Delhi.

"I generally find the Goonch occupying the very head of a rapid; they lie motionless with apparently no effort in the white water among the boulders at the foot of a smooth incline down which the water rushes with immense force through the open sluices of the weir. Some idea may be formed of the strength of the stream from the fact that the river Jumna, which is at this point about three quarters of a mile wide, is artificially narrowed by a bund to a width of about thirty yards, this being the length of the weir through which nearly the whole volume of water has to pass

when the sluices heading the Agra Canal just above the weir are closed. The monster weighing 136 lbs. caught by Mr. Van Cortland was, I believe, caught in the white water of the rapid, or just below it in the full strength of the stream, and I have frequently seen a Goonch take my spoon or minnow here as soon as it touched the water.

"They lie very often with their backs just out of water and are easily shot with a bullet. Mr. Cyril Kirkpatrick, with whom I have more than once fished at this place, and in whose company I hope to do so again before many days are over, can corroborate my experiences on this point.

* * * * *

"With reference to 'Rod's' first letter in the *Asian* of the 13th instant, on the effects of temperature, I have generally found that in the cold season predatory fish do not take freely, at least in tanks.

"My experience of river fishing in the cold season is very limited, and I have only noticed personally one exception to this which occurred on the 17th, 18th, and 19th of February last year. I fished on those dates in a tank in the Hissar district from 1 P.M. to 4 P.M., and killed respectively eight, six, and one fish of the *Wallago attu* species with a spoon as big as a dessert spoon, silver plated on both sides. These fish ran from 3 lbs. to 15 lbs., average weight $6\frac{1}{2}$ lbs.

"I had in the month of June in the preceding year killed one hundred and twenty-five of these fish in three days with spoon and minnow, but they only averaged 3 lbs. as the tank was very much overstocked with them and they were probably half starved. This thinning out of them evidently improved their size very rapidly, as only eight months elapsed between the two occasions, and it evidently shows that these fish grow at a most astounding rate when able to obtain plenty of food.

"The days in February above quoted were bitterly cold, especially the 17th, on which I killed eight fish, in fact so cold, after heavy rain a day or two before, that, although I had shot on foot along a ten mile stage from 8.30 A.M. till midday, I was shivering when I arrived at my camp.

"I do not think, however, that the habits of predatory fish in tanks afford anything like an accurate test of the same fish in rivers.

"On the 11th of this month I fished at Okhla in a cold wind but a hot sun, and did not rise a fish though I saw a few, all of predaceous species, rising at about 3.30 P.M., and the belief is general, so far as I can discover, among fishermen in the Punjab, that the cold season is not suitable for fishing even when the water is in good order, as it generally is at that season in this part of India.

"YUBA BILL."

"Delhi, 22nd February, 1883."

Mr. Cyril Kirkpatrick also prefers the shallow at the head of the white water for these fish, where, letting the bait down the white water,

the Goonch takes it for some exhausted fish that has failed to get past the shutters and is falling back. He also has a preference for a good stout cord that you can haul on to, so as not to waste time or try tackle over their sulking. Others have similarly caught them for the purpose of getting them out of the way for their Mahseer fishing, as they would break Mahseer tackle.

I have also seen them taken in the still water of the pool below the sluice runs at Narora.

The flesh of the Goonch is yellow, and the natives are very partial to it.

The tackle may be the same as dressed for Mahseer on wire gimp No. 2/0, unless you mean to haul them out hand over hand, when the gimp should be stronger. For strength, see page 208 and make your choice.

Silundia Gangetica.

The capturers of the monster *Bagarius* mention in the *Asian* of the 8th of June, 1880, having caught another large Siluroid at the same place, Okhla, near Delhi, while spinning a tin minnow: "It was very game and fought splendidly, making one magnificent rush of over 80 yards, and being gaffed cleverly by a friend after about three-quarters of an hour's anxious play, and before it was quite done up." It weighed 42 lbs. and was 39 inches long without, and 47 with the tail. The native name is given as *Sinnun* or *Silun*. Day says it attains to 6 feet or more in length, and is to be found in the estuaries to nearly the sources of the rivers of India and Burmah.

Mr. Cyril Kirkpatrick tells me that this fish is a very game one, fighting well, and that he fishes for it in the same water as for the Goonch, but for the Silun in the whitest deep water, and in the strongest stream, while he fished the shallow of the white water for the Goonch. He says its colour is golden, like the Mahseer, when coming out of the water, but quickly fading, the fish becoming blue-backed with a white stomach. It is scaleless. Its formula will be given below. The bait is a spoon or fish, but I have a note of one of 12 lbs. having been taken on a Mahseer fly at Okhla in May, of which also it is honourably recorded on separate testimony that it "fought magnificently."

In Southern India I have not come across either of these two last fish, but that is only negative evidence, and though *Wallago attu* is much more common in the South, Dr. Day informs us that the other two are also to be found there.

Macrones seenghala.

The Tengara is another of the Siluroids much quoted by anglers. But Tengara seems to be a name somewhat loosely used, as are so many vernacular names, not by Europeans only, but by sporting natives also. And it is not to be wondered at, as so many of the Siluroids are so much alike that a case of "mistaken identity" is very easy. I have myself taken two Tengaras in a day, and two Batchwas, and more than one Pupta. "I think there be six Richmonds in the field," and anglers may possibly complain that I have not included their own particular Tengara under the names *Macrones seenghala*, and *M. aor*, which are "very closely allied and chiefly distinguished by the much shorter maxillary barbels of *M. seenghala*."

They are said to run to "a considerable size" and to be good eating, therein running the Batchwa close.

They are best taken with a small live bait picketed at the bottom, very good business having been done by a friend with one of $2\frac{1}{2}$ inches, baited on a single lip hook, as any heavier tackle would kill so small a bait. And I have myself taken them at Narora anicut spinning with a small *Mugil cascasia* of 3 or $3\frac{1}{2}$ inches, as for Seetul, at the bottom, with constant waits, and especially in a run, or at the edge of a run, but always on the bottom.

Order. PHYSOSTOMI.

Family. SILURIDÆ.

Genus. WALLAGO.

Wallago attu. B. xix.—xxi., D. 5, P. 1/13-15, V. 8-10, A. 86-93 ($\frac{4}{82-89}$), C. 17, Vert. 13-56.

Genus. BAGARIUS.

Bagarius Yarrowii. B. xii., D. $\frac{1}{6}/0$, P. 1/12, V. 6, A. 13-15 ($\frac{3}{10-12}$), C. 17.

Genus. SILUNDIA.

Silundia Gangetica. B. xi.—xii., D. $\frac{1}{7}/0$, P. 1/11-13, V. 6, A. 40-46 ($\frac{4}{43-64}$), C. 17.

Genus. MACRONES.

Macrones seenghala. B. xii., D. $\frac{1}{7}$ o, P. 1/9, V. 6, A. 11-12 ($\frac{8}{8-9}$), C. 19-21.

Upper surface of head granulated in ridges. *Habitat*: The Indus, salt ranges of the Punjab, Jumna, and Ganges, certainly as low as Delhi, also the Deccan, Kristna river to its termination, and Assam.

M. aor. B. xii., D. $\frac{1}{7}$ o, P. 1/9-10, V. 6, A. 12-13 ($\frac{8-4}{9}$), C. 17. Throughout Sind and India to Burmah.

The *Kors* (Assamese name) mentioned by Mr. J. E. Welborne, of Assam, as running within his observation to 60 lbs., and his hearsay to 100 lbs., and the *Poongah* (Assamese), seen weighing about 20 lbs., and both to be caught with live bait in the still deep waters of the Assam rivers, are from his description in the *Asian* evidently Siluroids, but which of them it is not possible to say without seeing them.

Mr. Welborne's plan is, in pools of 30 feet deep, if possible, using for preference a $\frac{1}{4}$ lb. live bait, and even up to $\frac{1}{2}$ lb., with one treble hook beneath the back fin, and one hanging free below the stomach, and an ounce sinker 2 feet from the bait, and the bait about 3 feet from the bottom of the river, to hang the line, taut from the rod top, over the side, and let the boat be carried down the gentle stream from the head to the tail of the pool; which done, you may work up the edge of the pool and repeat the operation. He has also killed with the spoon. He thought the afternoon fishing the best. (*Asian*, 22nd July, and 2nd September, 1879).

I have given his method because he says he has been successful with it, and I do not profess to know the fish or the rivers he writes of. But it would seem to me that the bait must hang very near the boat, which, to a fish below, must be a great dark object looming against the light, and not exactly attractive, an objection easily obviated by the use of a large float or bung, or a string of two or three bottle corks, which would equally suspend the weighted line and bait, and also allow of its being kept well free of the boat some 20 or 30 yards down stream. Also the Jardine live bait tackle might be substituted with advantage. You will find it in the Index.

CHAPTER XV.

THE SEETUL, BATCHWA AND OTHERS.

"I care not I to fish in seas,
Fresh rivers best my mind do please."

ISAAC WALTON.

SINCE writing my last edition of this book, and since the birth of "Tank Angling," I have made the personal acquaintance of the Seetul, and have been so charmed with my new friend that I must give him a new chapter.

Let me formally introduce him as *Notopterus chitala*, called in various vernaculars, *Chitala*, *Chitul*, *Seetul*, *Moie*, *Mohi*, *Moh*, *Gundun*, and *Bunnah* in Tirhoot, attaining at least 4 feet in length.

Previously knowing them only by book and report, I first saw them for myself at the Narora anicut. The water was alive with them, rolling over on the surface, displaying their bright silvery sides, they are very flat-sided as well as very silvery, and giving one the impression that they were surface feeders. On that hypothesis therefore I fished for them, and fished in vain. But there were some seven other good rods there beside your humble servant, rods to whom the Seetul was no stranger, and one of them catching one I asked to see it. The formation of the mouth made me mistrust the surface antics as play, not feeding, and conclude that feeding would ordinarily be at the bottom. The size also of the mouth told again its own tale. The mouth was remarkably small for so large a fish, indicating that the natural food must be small. And the dentition was not formidable, the teeth being viliform or file like. I took a look also at the tackle with which my brother angler had caught the fish. But instead of exactly copying it I had an idea I could manufacture something more to the fancy of my new customer. So looking about me to try and discover what it could be that my new friend was feeding on, I saw that



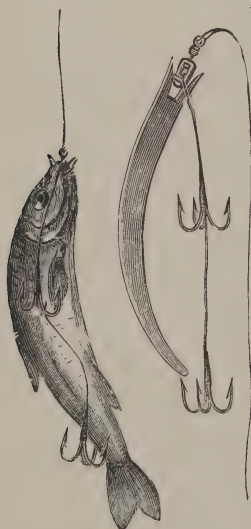
NOTOPTERUS CHITALA.
(Copied from Dr. Day's "Fishes of India.")



a small fish, averaging, tail included, not more than the length of my middle finger, was running up the fish ladder in countless numbers. It was captured and found to be *Mugil cascasia*, of which more anon. So I then and there rigged up on single salmon gut fine spinning tackle of one lip hook and one No. 6 treble with a sinker, and fished on the bottom, pulling very slowly, and at short intervals letting the bait rest for a minute or two on the bottom. I soon found that it was by a long way a more killing bait than any one present was using. And they saw it too in the proofs spread upon the shore, and they wanted to know what it was, they who had caught Seetul for years, while I had never seen them before in my life. Of course it was a pleasure to show them every whit, with the why and the wherefore, though I had not presumed to venture a hint till my experiment had proved a success. It was a crow for this child. But nothing more, dear reader, than you or any angler can do that will fish with his brains on a natural history basis, observing his fish closely, and adapting his tackle to its special requirements, remembering that he cannot always expect Indian fish to appreciate English tackle, not even the best of it, as they may have idiosyncrasies of their own which must be humoured. Accordingly, here I was trying for fish that I knew ran to 4 feet in length, that were rolling and flashing in my sight showing off their great size and agility, yet fishing with tackle such as would have been suitable in England for a $\frac{1}{2}$ lb. trout, the gut only being stronger. Another thing I had expected from the formation and armature of that mouth, namely, that the bite would not, probably, be sudden like a pike's or a siluroid's. And so I found it. Giving time by slow spinning and constant waits on the bottom, and using a sensitive rod, I found the bite was a gentle nibble, not always followed by a run off with the bait. So I struck to the nibble and it payed. It was promptly answered by a grand rush, my silvery friend flinging his glistening sides with a bright flash high in air. In the matter of play he was a magnified trout. Let me instance one. He turned the scale at 16 lbs. He was taken on a 14 feet double-handed trout rod, that was exceptionally light and pliant for its length. With it I could feel the gentlest nibble of a small-mouthed fish fumbling over a bait which, though only three and a half inches long, was more than a convenient mouthful. And when the grand rush came in instant answer to the strike, how the rod bent and quivered and yielded, seeming to gasp for breath at the pace at which the line flew out in

spite of all the strain the rod could bear. Over and over rolled the fish on the surface, just as when at play, exulting doubtless in his strength, not dreaming what a serious game it was going to be for him. Four feet in air leaped the burnished silvery athlete in his wrath, and not once but again and again and again, each time dashing off with a plunge as he regained his element. But the little rod held on tenaciously, labouring hard the while. Brother anglers, viewing the seemingly unequal struggle from a passing boat, called out in honest sympathy: "Next time you come here you will bring stronger tackle."

"No," I shouted back, grimly confident of conquest, "the sport is to kill him on this." And so the fight went on till we "foiled his wild rage by steady skill," "we," being my pertinacious rod and I.



Geen's Richmond spinner, trout size, and with hooks and gut mounted as for trout, would suit this fishing. It is made a trifle larger than the illustration, the actual size being two inches long in the curved blade including the swivel. Consequently it will carry a dead bait of that length or an inch or inch and a half longer. The hooks, though of the same size, will be the better for being Mahseer hooks No. 12, because then the tackle can, on emergency, be available for small Mahseer in mountain tributaries. If you have not got such tackle by you, and

must rig up something impromptu, you may substitute a single vent hook, as on page 68, but of No. 8 size treble, on salmon gut, with a Dee sinker minnow size.

So game a fish was well worthy of more attention than I was able to give him, and much I wish that I could have prolonged my stay in his neighbourhood. Having by a glance at his mouth arrived at these preliminaries and tested them successfully in practice, that the bait should be small, and worked slowly, and at the bottom, and that the strike should be made on the nibble or fumbling over getting the bait into their mouth, I should much like to have been able to make other experiments, advancing further on the lines of these discoveries. If a

16 lb. fish preferred or needed, I think needed, to fumble over a fish bait only $3\frac{1}{2}$ inches long, tail included, I should have liked to try him with something still smaller, so as to test the question whether it was the size of the bait that necessitated his attempting it in that fashion, or whether it was his habit of feeding equally when the bait was so small that he could easily take it in at a mouthful if he wished.

It would seem at first sight that to picket a very small live bait on the bottom, in the manner described for Mahseer, would be successful. But I hardly think it would if you left it to look after itself, for these fish do not seem to hook themselves by closing their mouth roughly on your bait, but nibble at it and need that you should be handling your rod ready to strike.

And what is this nibbling? May be it is the effort of a small-mouthed fish to turn the prey in its mouth so as to be able to swallow it head foremost. If so, perhaps a very small gorge hook, small enough for a minnow bait, worked about the bottom, and even left to itself, if they will take a dead bait, would be effective. If you have not such a gorge hook at hand you can make a fair substitute out of a small eel hook, or a single Limerick or treble, on gut for preference, weighted and baited after the manner of gorge hooks with a baiting needle inserted at the mouth and brought out at the tail, drawing the gut after it till the hook is home to the mouth; or you can use a dip minnow.

But whether or not these suggestions will further advantage you, this much we know that you will greatly increase your sport with these fish by having regard to the lessons learnt from the size and situation of the mouth.

Their habit of rolling over and over on the surface is remarkable. Labeo have the same habit, except that with them you see only the boil, while with the Seetul the whole glistening side is displayed flashing in the sunlight. I fancy it means jubilation. With Labeo it always indicates that they are feeding, and it is strange that both should come to the surface, when it is at the bottom that they are feeding. I suppose it is not the hungry ones, but those intoxicated with good feeding, like a colt too full of beans, that fling themselves about. I have known even a human with just a touch of the same feelings, fling himself into an easy-chair as he described his good dinner with a half

sigh of contentment: "A feeling of comfortable repletion, combined with partial intoxication!"

I have known them taken on a spoon too, and when I was at Narora in mid-April they took best in the evening.

"Meade Shell," tells me they are to be taken at Okhla also, and grow to 80 lbs. He adds: "It takes worm bait freely and can also be taken with a leech. I should say it even grew to 4 or 5 ft. in length. It has a habit of coming to the top of the water, and slowly turning over, and exposing almost its whole length. When it has deposited eggs it will sometimes give a native a sharp nip when bathing, should he come too near the eggs."

Mr. Welborne in the *Asian* of 30th March, 1880, says he is told it attains a weight of about 40 lbs. but the average size they are caught by the Dhooms in their nets, would be probably about 18 lbs.

Dr. Day says "it attains at least 4 ft. in length," and inhabits "the freshwaters of Sind, Lower Bengal, Orissa, Assam, Burmah and Siam to the Malay Archipelago."

Dr. Hamilton Buchanan says of it: "The belly is uncommonly rich and well-flavoured, but the back contains numerous small bones," and Mr. Welborne writes: "It is not usually thought much of for the table by Europeans, but the natives think highly of it, and I think they are right, for I know nothing better in the fish line than the thin or belly part of this fish fried; the back or thick part I will admit to be uneatable. The thin part, when in condition, is covered with fat and very rich and tasty."

A well-known angler writes me, I believe in all gravity: "The Mohi can wriggle backwards with sufficient force to draw out a few yards of line while gazing reproachfully at you, head on. He is the only beast I know who can do this, and he looks rather uncanny during the performance."

N.B.—The writer is a police officer, and the police you know prefer that one should come along quietly and not make faces. So take your pinch of Attic salt with this!

Its formula, taken from Dr. Day's "Fishes of India," is:

B. viii.-ix., D. 9-10 ($\frac{1-2}{7-9}$), P. 16, V. 6, A. 110-125 (135). C. 12-14, L. 1. 180. Caec. pyl., 2.

Mugil cascasia.

You have been promised above that you should hear more of *Mugil cascasia*. It is a small freshwater mullet that does not appear to exceed 4 inches in length, but is a very important little body as a bait. Dr. Day says its habitat is the "upper water of Ganges and Jumna rivers, and certainly as low down as Patna, also in the Brahmaputra." I have seen Mahseer taking it freely, laying wait for it at the top of a fish ladder, and it is in such countless numbers that it may well form the chief food of many fish, notably of the Batchwa. While they are present in such numbers it is probable that a small spoon of 2 inches would be a more effective lure in those parts than a larger one. I know I thought myself at a disadvantage in this respect till I observed it and changed to a small spoon.

When using it as a bait spin high with it for Batchwa and Cherki, high and at mid-depth for Mahseer and Murrel, but at the bottom for Seetul, Tengara, and *Wallago attu* and other siluroids.

It is considered bad eating, and is not to be confounded with another freshwater mullet, *Mugil corsula*.

Mugil corsula.

Mugil corsula, which grows to a foot and a half or more in length, has perhaps no proper place in a book on angling, but it has crept into my notes because of its habit of swimming on the surface in shoals, with its prominent eyes protruding above the water, and giving one the delusive hope that it was a fly-taker, whereas it is so quick in observing the angler, and diving down on seeing him, that Bevan recommends shooting it with shot as the only means of capturing it. Having got itself into my notes under such false pretences, it has only itself to thank if I deliver it over to your cuisine, for I am told it is excellent eating, especially in the form highly commended to me by an officer who got his mess sergeant to write me out the following regimental recipe.

"*Recipe*.—Clean the fish and remove the scales and backbone from *inside*, not opening the back for the purpose. Soak for two hours in a mixture of Worcester sauce one tablespoonful, juice of two limes, sugar two teaspoonfuls, salt and pepper, constantly turning the fish meanwhile.

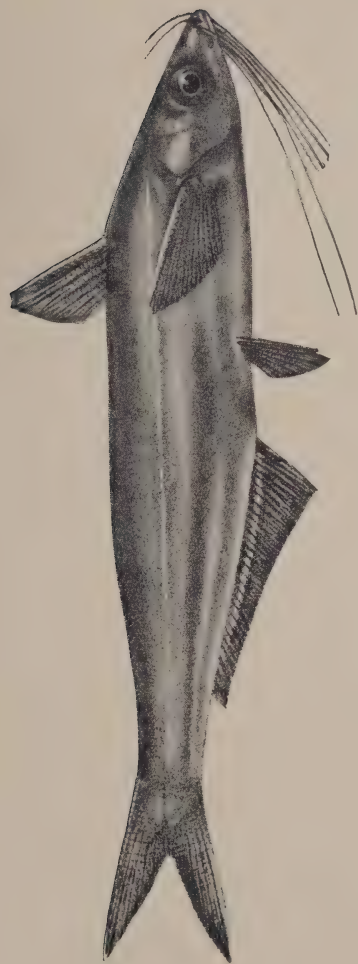
For the smoking process procure a sufficient quantity of shavings, scraped off with a knife, from the sugarcane, the shavings to be wetted and put on top of lighted charcoal, the fish on a grating (iron) about two inches above the fire, and covered over with a degchie lid, or other contrivance to prevent the exit of the smoke as much as possible. Smoke for about one hour or until the colour of the fish is similar to that of the well-known 'dried sprat,' or a lightly browned 'red herring.' When required for table fry lightly in butter."

The Batchwa.

The Batchwa is too sporting a fish to be omitted for the insufficient reason that my own personal knowledge of him is but small, for my friends allow me to supplement my knowledge with theirs. He is also excellent eating.

At Narora in April, I took the Batchwa (*Pseudentropius garua*) promiscuously with the Cherki (*P. murinus*), and they are so alike that many, I am told, do not distinguish between them. The river was swarming with the little freshwater mullet, *Mugil cascasia*, mentioned above, and so it was natural to use it as a bait. The largest of these mullets did not exceed 4 inches in length, and I preferred one of 3½ inches for bait. I found it best to spin near the surface, using no sinker. But my friends aforesaid, who are good authorities, Mr. Cyril Kirkpatrick and Mr. H. S. Dunsford, told me that Batchwa fishing differed with the season. In April they ran up to 1½ lb., but in May were in larger numbers at the Narora and Okhla anicuts, the bigger ones being in mid-stream, the smaller ones in the eddies, the smaller ones then taking a fly the size of a lake trout fly or bigger, say No. 9 to No. 4 Limerick, the bigger for choice, or a very small fish or spoon. So freely do the smaller ones take the fly that on a cast of three it is not unusual to take one on each fly. There is a curious consensus of opinion in favour of the bigger hook on the ground of giving a better hookhold, the Batchwa often getting off the smaller hooks. The recognised colours of the flies are orange and black.

Batchwa are said to show sport from the 15th or end of March, though an odd few may be caught even in February, till at least the beginning of November, April and May being the best months, and possibly they may take after November, but deponent cannot say. They take in coloured snow-water, when Mahseer will not. On the



PSEUDEUTROPIUS GARUA.
(Copied from Dr. Day's "*Fishes of India*.")

29th May, two rods, Mr. Cyril Kirkpatrick and Mr. Aldwell, caught in one afternoon 163, running about one pound each more or less. That is about 80 lbs. each in a short Indian afternoon with no lengthening English twilight. You can hardly wish for anything much better.

Generally the fishing is at the surface, using no sinker with your spinning bait. Only when the Batchwa do not show at the surface should you fish three or four feet deep. Always spin in the rough water and against the stream. When fly-fishing, if you cannot reach them let the stream carry out your line till you can. They will not take it going down, only when pulling it up, and they strike themselves excellently.

After catching half-a-dozen or so examine your gut, as their teeth are sharp and fray it, says my friend. This seems very troublesome, and a very short life for a fly on gut. It suggests the idea of having a few flies for Batchwa tied on No. 5/0 wire gimp. But it is a new departure, and I am bound to tell you I have not tried it, as I have everything else I recommend. It is merely a suggestion, for you to experiment with or not as you fancy. Be plucky and try it on a few, as I am in England and cannot try it for you; and have the rest of your order tied on eyed hooks, and attach them yourself with a short snood of No. 5/0 wire gimp, or ask your tackle-man to so attach them for you, and if, on trial, you do not like the wire gimp, you can snip it off and revert to short-lived gut snoods.

As the right way to lay hold of a pike is with a finger and a thumb in each eye, so the right way to handle a Batchwa, Cherki, or Tengara is with his head in your palm.

For those who like to distinguish between the Batchwa and the Cherki I append the usual epitomized formulæ taken from Dr. Day's "Fishes of India."

Pseudentropius garua. B. vi., D. $\frac{1}{7}$, P. 1/11, V. 6, A. 29-36 ($\frac{3}{26-33}$), C. 17. Found generally throughout the larger rivers of Sind, India, Assam, and Burmah. Attains upwards of two feet in length. *Punia buchua*, Ooriah; *Puttosi*, Beng.; *Buchua*, Hind.; *Dhong-ga-nu*, Sind; (*Kocha*, Teesta, H.B.).

P. murius. B. v., D. $\frac{1}{7}$ /0, P. 1/10, V. 6, A. 38-43 ($\frac{3}{35-40}$), C. 17. *Muri-vacha*, Ooriah and Bengali; *Matusi*, Beng.; *Buchua*, Hind.; *Ke-raad*, Punj.; *Chhotká váchoyá*, of the Kusi (H.B.).

Habitat: Rivers of Sind, Orissa, the Jumna, and rivers of Bengal and Assam, attaining about six or eight inches in length.

I have caught it larger.

The chief distinguishing points are, that in the mature Batchwa the second adipose dorsal fin is wanting, and the feelers of the Batchwa are longer than those of the Cherki.

The Pupla.

The Pupla, like the Tengara and the Batchwa, seems to have more than one representative under the same name. Of one of them Mr. Cyril Kirkpatrick says that it is a very good fly-taker indeed, especially early in the season, before the Batchwa is up. He has caught hundreds of them, almost entirely on the fly, but some few with a small fish as bait, at Okhla near Delhi. One I caught at Bisalpore, when fly-fishing for *Barilius bola*, and certified by a sporting native as a pupla, was different from others equally so named. It is one of the smaller siluroids, and another case of "many marching in his coats."

CHAPTER XVI.

THE MURRAL.

“Ah me! what perils do environ
The man (? fish) that meddles with cold iron!”

BUTLER'S *Hudibras*.

THE Murral or Marral, misspelt also marrel, murl, morrul, in the various untutored efforts to transliterate the Hindustani name, is the *Ophioccephalus*, or snake-headed, of Ichthyologists, and the Viràl, misspelt Verarl of Tamil, *Hal Mars* of Assam, and *Owlu minu*, I am told, of Coorg; and, to make all sure, here's his honour's likeness.

I have been much exercised by this fish as to what is his proper place, whether in this book or in “Tank Angling.” I think the latter has the stronger claims on him, for though he is in every river, he is also in every reservoir; not only because he enters them voluntarily when they are river fed, but also because natives esteem him such good eating, and find him so easy of transport, by reason of his being so tenacious of life out of water, that they have introduced him into every pond, fort-moat, or other reservoir in their neighbourhood, and even into wells. Once introduced they will survive the annual drying-up of a tank by æstivating, as will be seen below. So I think this fish should be relegated to “Tank Angling.”

But as I have been charged, and I fear I must admit rightly charged, with having therein treated him with little ceremony, I will here endeavour to atone, adding only such matter as has been omitted from “Tank Angling,” and should appear in the next edition of it, and referring my reader for the rest to that book.

It is a funny compound, is the scientific name of this fish, and is illustrative of many another scientific name, see p. 172, *supra*, for which, by the way, I am not presuming to blame any one, but rather

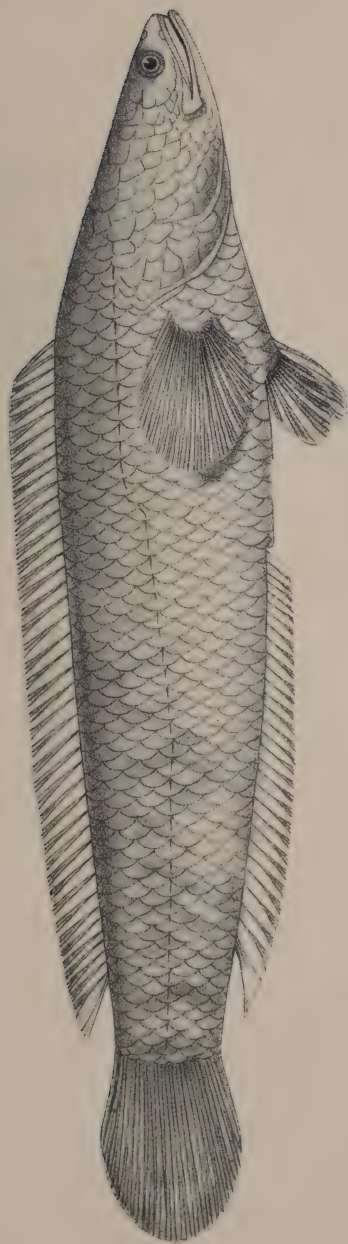
apologizing for the necessity which, in the interest of identification and advance in knowledge, is wisely laid on every Ichthyologist to follow the name given by the first sponsor. So we have the name of the genus in Greek, *Ophiocephalus*, or snake-headed, and of one species, *O. micropeltes*, small-shielded, the name of the species also is correspondingly in Greek; then we have *O. leucopunctatus*, white-spotted, with the first half of the compound word *leucopunctatus* Greek, the second half Latin; and in *O. marulius* we have the Hindustani word murrel, Latinized.

However, his acquaintance is worth cultivating, for he grows to 2 and 3 feet in length, and is not bad eating. He is as full of bones as a pike, but then he ought to be brought to table as full of stuffing also, so that you may be of a forgiving disposition.

He is very like a pike in more ways than one. He is long-shaped like a pike; has a mouth full of teeth like a pike; like him basks in the sun at the surface, though very tolerant of cold also; and like a pike roams about at times for his food, instead of waiting stationarily behind a rock, for it to be brought down to him by the stream. This is the natural consequence of his living chiefly in ponds, and in the still pools in rivers, where there is little or no stream to bring things past a stationary object; and the consequence also of his food not being such as would naturally be washed down a stream. At times he lies hidden like a pike, and perfectly motionless behind weeds, under a bank, amongst roots, or in a hole, with just his nose out, watching for unwary little fish to swim by. It is said that they frequently have large holes in the bank in which they live in pairs coiled up. This habit of taking to earth is sometimes very inconvenient to the angler, for if he is not very prompt and very vigorous in keeping them away from the bank when hooked, they will have the line round a corner, and you may then say good-bye to all chances of recovering it, or your fish; you will have to break it. I have had a Murrel run into a hole in a rock in this way, and I lost my fish, and my tackle, and my sweet temper, all at a stroke. Of the last two commodities, however, I had more in stock, and soon indented thereon.

It does not make anything like as good a fight as a Mahseer, but bores down to the bottom. When caught, keep your fingers out of his gills as well as out of his mouth.

The Murrel feeds much as the pike does, and may be fished for in



OPHIOCEPHALUS STRIATUS.



the same way, and with the same tackle. But whether they require clear water, as the Mahseer does, and the necessary concomitant of fine tackle, or can equally be taken when the water is coloured, I am not prepared to state, though I am *told* coloured water suits them best. The principle on which they surprise their prey is to hide themselves well.

They are, in my experience, very shy fish, and from what has been seen of their habits should be fished for, not in mid stream, but close to the banks, and under them, and in the still pools.

Morning or evening is also the time to take them ; in the heat of the day they may be seen basking on the surface or close below it, and can then be shot. I have seen a native doing this very successfully. He walked up the stream like a wise man, so as to approach the basking Murrel unobserved from behind, and he used a ball, and aimed always at the head. By making the head your mark, you not only injure your fish less for the table, but you make much more sure of bagging. The one that this native shot for me had the slightest mark on the off side of the head, where the ball had just grazed. Apparently the man had not allowed sufficiently for the refraction, and had very nearly missed his fish in consequence ; but just a touch had been sufficient on the head, whereas a flesh wound would not have secured the fish, unless it had been so central as to break the backbone. If you aim at the head you may even miss your fish, and the concussion of the water will stun him, if you have gone close to him. I am told they sink when killed, or stunned, as I should suppose they would. You must, therefore, have a man ready to go in after them at once.

But if you go in for fish shooting, and I would not call it poaching in India, you must allow for refraction. Refraction makes the fish appear nearer to the surface than it is—you should therefore aim below it ; your ball also has a tendency not to pursue a direct course under water, but to glance upwards—another reason for aiming low. Furthermore, your ball will not take to the water kindly at all, will not do business far under the surface. I think a foot under water is the utmost distance at which you can trust it to be effective.

But to return to the rod and line. The Murrel may be spun for with the same bait and tackle as has been recommended for Mahseer ; but if you want to get sport out of him, you must remember that he

has not the power of a Mahseer, and that if you use a Mahseer rod or an English pike rod, you will make an end of him in no time by mere brute force. For sport you can have no better rod than the light little Labeo rod recommended for Labeo fishing in "Tank Angling," and for *Wallago attu* on p. 207, *supra*. I have tried it and had capital sport with it, and consequently thought more highly of the Murret than I did when penning "Tank Angling," for I killed Murret as well as *Wallago attu* on the occasion mentioned above, page 208.

But if you use such a light rod you will strain it in casting if you do not also lighten your bait. For repeatedly casting a dead bait out as far as you can throw it is a very different thing from gently lifting and dropping in a live bait at long intervals and within easy reach of the shore. The light rod cannot vigorously cast a dead spinning bait of the same size as it can gently lift a live bait. So while a $4\frac{1}{2}$ -inch bait is recommended in "Tank Angling" for live baiting, a 3 or $3\frac{1}{2}$ -inch dead bait, tail included, which is the length of your fore-finger or middle finger respectively, is as much as you ought to put on such a light rod, the tackle being Geen's Richmond spinner or the Coxon spinner, salmon size, as mounted for Mahseer on pp. 69, 70.

If you prefer a still lighter bait these two tackles, the Richmond and the Coxon spinner, are made trout size, for which please see illustration and remarks on p. 218, and the trout hooks will hold a Murret if you are light handed, and with so light a rod you can trust yourself with finer, rust-proof wire gimp (say No. 4/0) than I have suggested for Mahseer and *Wallago attu*, on pp. 70, 208, and the hooks may be No. 12 Mahseer trebles. But this is rather multiplying tackle for the fanciful. Still some take a great pleasure in being fanciful about their tackle, and my object is giving pleasure, is it not, so it is just mentioned, but my *recommendation* is the salmon-sized figure at p. 69.

You can also use a small spoon of $1\frac{1}{2}$ inch length.

Fish close to the surface, as Murret feed largely on frogs, for which you may frequently see them roaming about near the surface. A good reason for fishing near the surface, in preference to fishing deep, is to be found in the position of the Murret's eye, which is placed very high in the head, and is calculated for looking upwards rather than downwards; so that a Murret, even when concealing himself, by

lying on the very bottom, can well see what is passing over his head, and between him and the light.

The depressed shape of the head and fore part of the Murre's body, especially of the under half, shows that it is frequently at the bottom; indeed, so depressed is the form, that it seemingly could not swim with its mouth at right angles to the perpendicular, if it was not assisted by an unusual length of dorsal and anal fin.

There are two or three ways of live-baiting. There are the ordinary English ways of running the hook just under the back fin, or through the upper lip. Through the lip is unsatisfactory to my mind, both because it gives a very tender hookhold, and is liable to give way when taking your bait in and out of the water; and also because it interferes, I think, with the breathing of the bait, and kills it sooner than it need. Of course you should not adopt the clumsy way I have seen some follow of hooking the bait right through the body near the tail, for you thereby make its movements in the water unnatural; and, I should think, soon kill it, for I am free to confess I never tried it myself. Then, again, there is the somewhat cruel way not unfrequently used with trimmers in England. Just slit the skin with a penknife, on the side, half-way down the fish, close to the gills, insert a baiting needle, and pass it carefully down the fish only just under the skin till about over the anus, when you bring it out, and draw the loop of the hook after the baiting needle till the hook is home to the entrance, and lying close against the fish. But the natives have a very neat way of baiting a live fish. They insert the hook at the anus, and pass it carefully point foremost towards the back, but only just under the skin; and when they have got it well up to the bend of the hook, they push the shank gently in up to the very head, so that the whole hook is concealed under the skin of the bait, and lies with the back of the hook towards the back of the fish, and the point towards the stomach, for the hook has had a turn given to it in the process of inserting the shank. Lastly, the hook is felt through the skin, and the cord gently pulled, so as just to bring the point through the skin of the bait. This last is a delicate operation, and serves the double object of preventing the hook from slipping out of its concealments, and of being the better prepared for hooking the fish that takes the bait. This sounds a long operation, but is very quickly done, and seems to injure the small fish but slightly. If you have gut attached

to your hook there is nothing at all showing, and even if you have thinnish wire gimp (p. 228) there is very little to be seen in dirty water. But the more modern Jardine live-bait tackle seems best of all (p. 141), mounted on No. 4/0 wire gimp. Having live baited, you can fish with a rod, or can set trimmers after the English fashion for pike, just as you prefer.

Another way, and a paying one, to fish for Murrel is to dap with a dead frog. The common little brown frog (*Rana cyanophlyctis*) is the one they like. Run the hook, No. 0 Limerick in my scale, through the head of the frog, and bring out the point only, not the barb, just through the skin under the chin; extend the legs up the line, and bind them together on it, the frog being dead. Dap the frog on and between the lilies on a pond. A stiff rod and stout line is advisable, because, among a network of lilies, you dare not give any line, but need to lift your fish straight out at once, and as they run large a stiff pole of bamboo is about the best thing you can have. The natives place the butt of the pole in a leather socket at their waist, so as to give them a leverage in using the pole. You may also use a gorge hook as in the larger illustration.



But there is yet another way of fishing for Murrel which is the most killing of all. It is the native method of setting a trimmer, and is very simple and very perfect. In your large still pool look for a bush with a bough overhanging the water. You will find plenty of them, and can set an Asiatic trimmer at each. Be prepared with some live frogs in a covered earthen pot. Bait one by passing a hook in and out through a little bit of skin nearer the head than the centre of the back. The way in which a frog sits naturally in the water is not on the flat of its stomach, like a duck, but with just its eyes out, and its hind legs well under water. By inserting the hook a little forward of the centre of the back, you not only give the frog this natural attitude, but you also relieve it of inconvenience by letting its weight be borne by the water, not by the hook. Be careful you do not touch anything but the veriest skin, and bear in mind old Izaak Walton's famous injunction to "treat him tenderly as if you loved him." The skin is easily taken up like the loose skin of a dog. Then reach



out, and pass the line over a fork in the overhanging bough, the object of the fork being to keep the line off the shore, and then lower away your frog till he just sits comfortably and naturally on the surface of the water, unsuspended by the hook, his weight really being on the water, and yet without an inch of slack line. Then make fast to any convenient object on the shore, giving, as aforesaid, no slack line at all. You may leave it to do its work while you go away and tie a dozen more, or spin, or smoke the pipe of peace.

The Murrel feeds largely on frogs, and sailing quietly about, looking for them, as his habit sometimes is, he comes upon your bait, and, as it is thoroughly natural, of course takes it.

“Ah me! what perils do environ
The *fish* that meddles with cold iron.”

He has to go through a severe course of steel before he has done with it. As there is no slack line at all, he is struck the moment he has taken the bait; the line is taut on him, and he is seen flapping about, with his head half out of water. You have consequently no need to be constantly examining your trimmers, as you can see, from a quarter of a mile off, a great fish flapping and splashing on the top of the water.

As there is no play whatever given to the fish, but a dead pull from the moment he is hooked, it follows that your line and hook must be strong—must be much stronger than it would be necessary to use on a rod. A single hook of about the size of a No. 4/0 or 3/0 Limerick hook will do very well; but a good strong treble hook is perhaps a trifle better. It should be tied on a piece of the No. 2/0 wire gimp, p. 208, or thicker if you like; the natives use a bit of copper or brass wire, which does very well. The line can be any piece of good stout twine. You need not be nervous about its being seen by the fish, for the manner of baiting is such that there is nothing whatever to be seen in the water, and the hook, be it ever so big in reason, cannot be seen, because it is thoroughly screened by the frog, which is in a direct line between your hook and the fish to be taken. Of cord, too, there is only about a foot or two, hanging in a motionless straight line directly down to the frog, by which again it is mainly hidden; it is also generally difficult to see in the shadow of the bush.

The whole method of baiting is so simple and so effective, that it

might be adopted with advantage for pike in England, for they also have a tooth for frog, though not quite such an one perhaps as the Murrel :—

“ But John P.

Robinson. He

Sez they didn't know everything down in Judee.”

So the little wrinkle is thrown out.

In shallow edged tanks with no overhanging bushes the same method is adapted by a native wading in nearly up to his armpits, with three thin pieces of bamboo, which he sticks into the mud, with their bases well apart and their tops together, so as to form a tripod; and from the point where they meet he drops his frog just as he did from the fork of the overhanging bough, and the other end of the line is made taut on the shore. One man ordinarily manages three such lines, radiating out from the point where he sits on the shore, to spots 20 or 30 yards apart in the tank. He has one under each foot so as to be able to feel with his bare foot the twitch of a bite, and he has one in one hand. He cannot manage more. Doesn't he just wish he was *centimanus Gyas*. If the tank is covered with weeds, a small clearing is made for the tripod and bait, and though this may disturb the locality while baiting it does not matter. A mole cricket tied to the hook, not impaled, and dapped all alive and kicking, is said to be irresistible. I can quite believe it. But surely it should be among lilies. Cockroaches are also used for such fishing, but in what exact method I cannot say positively, for I have no note; my memory is that they are impaled on the hook, as cockchafers are for chub in England, and cockroaches certainly are wonderfully tenacious of life in a hot climate. I know, however, that you may safely repose confidence in a frog.

Ah me! who would be a frog? To “lead the life of a dog” is nothing to leading the life of a frog. On land mongooses, snakes, kites, crows, rats, larger frogs, and battalions of paddy birds, or egrets, go in at him greedily. In the water the Murrel feeds almost entirely on him, lying *perdu* under the banks for the purpose; while the water-snake follows him in both elements. But the verdict is “serve him right,” for he is a fry-eater and a spawn-eater, and he is irrepressible, getting up drunken choruses all over the country directly there is a good fall of rain, and he has had a wet night of it. It is truly

disreputable ; and then he is so greedy. I had some in a can, together with other bait, when what should I see but one of these "glutinous" ruffians improving his opportunities by endeavouring to swallow a bait longer than his own body. He had the head and shoulders and half the body down his "sarcophagus or elementary canal" and was holding on to it sulkily, while the fish's tail was wagging gaily. I pulled poor fishy out, when froggy straightway went at him, and half swallowed him again. You see what an incorrigible brute he is, so put him into your can, and be off with him to the haunts of the Murrel without any compunction.

A frog swallows a frog head foremost, a snake swallows a frog legs foremost, the little frog in both positions calling out lustily the while, and the operation in both cases being a protracted one, the placid imperturbability of the swallower contrasting markedly with the gesticulating vehement oratory of the swallowed. While the big frog, *Rana tigrina*, was swallowing the little frog, *Rana cyanophlyctis*, head foremost, the little brown fellow kicked all he knew, very little more than his hind legs being out, and from cavernous depths shouted in sepulchral tones "Police ! Police !! Police !!!" Being a J.P., I stopped to know what the row was about. *Rana tigrina* had not a word to say for himself, and moved not a muscle of his impassive countenance, much less stirred hand or foot. As in duty bound I eventually interposed and freed the little one. He was not injured in the least, only a little frightened ! Considering his character, I think I should have done better had I let the urchin alone.

The Murrel lives a long time without water, and can therefore be taken home alive, and consequently fresh, the flesh remaining firm.

The reason for this is that, unlike most fish which breathe only the oxygen contained in solution in the water, the *Ophiocephalidæ* inhale the atmospheric air direct. They may be seen coming up to the surface continually, exhaling a bubble and taking in a mouthful of fresh air, and they have an air cavity for the storage of the fresh air. If confined in a globe or other vessel with a net stretched across a little below the surface of the water, so as to prevent them from breathing the atmospheric air direct, they will die from not being able to oxygenate their blood, however fully supplied with oxygen the water may be. Being thus able to breathe our air, and being commonly dependent on it, they do not suffer like other fish on being transferred

to it. Indeed, they travel on land of their own accord, and any one allowed to jump out of your can or tub of water will soon be seen to wriggle a considerable distance on land, and to keep it up long after any of the carps would be dead. They are among the fish that have been known to bury themselves in the mud at the bottom of drying rivers and ponds, æstivating there through the drought till the next rains release them. They have been dug alive out of the sun-burnt mud from as great a depth as 6 feet.

The *Ophiocephalus gachua*, which I have mentioned above as a tough bait, is one of this family, therefore easy to keep alive in a can, and not to be picketed to the bottom.

Murrel will thrive in ponds, and at various altitudes, so you can easily stock a pond if you desire, but they will speedily depopulate it of other sorts of fish. The natives frequently put them into their wells, from which they can take them fresh and fresh as they want them.

In brief they are ubiquitous. In any fort moat you will find them for a certainty because when the Mussulmans were rulers, and held so many forts, they introduced them freely. Mussulmans are great fish-eaters, and sporting fish-catchers, because a fish is an animal food that they are permitted to eat without the offering of *hallal*, as "Allah has cut its throat already," witness the gill openings, and for the reasons stated Murrel are the easiest of all Indian fish to introduce.

The Murrel, unlike most fish, exhibits parental affection towards its young, keeping them together in a shoal, and swimming under them, and attacking anything that comes near them. This it does till they are about 3 inches long, when it turns on and eats them itself, if they do not disperse.

There are nine *Ophiocephali*, of which four attain to about 3 feet long each, and one to 4 feet. These larger *Ophiocephali* are commonly called Murrals. Of these five, then, I have in "Tank Angling" quoted abbreviated descriptions from Dr. Day's "Fishes of India," omitting the others, except *O. gachua*, mentioned above as a good bait.

CHAPTER XVII.

EELS.

"The imperious seas breed monsters; for the dish
Poor tributary rivers as sweet fish."

SHAKESPEARE.

THESE fellows are not much in my line. I confess I hate the sight of them; for if ever you see eels lounging about the bottom of a river in England, like so many coastguardsmen expecting foul weather, you may be sure the trout will not rise. How could they be expected to in such low company! And if you have the bad luck to hook one, he just behaves like an excited corkscrew, till he has got your line into so many knots and kinks, that it will take you a month of Sundays to unravel it. And then as to unhooking him. Oh! don't talk of it.

But some think them good eating, and like to catch them, so we will give them a page or so, grudgingly.

Of spined and unspined eels you will find, in Dr. Day's work, 47 species, under the families, *Rhyncobdellidæ*, *Symbranchidæ*, and *Murænidæ*: but many are small, and the last-named are almost all marine, and of the others many are tidal. The only ones worthy of the angler's notice seem to be my old friend *Mastacemblus armatus*, which runs, to my knowledge, to about 2 feet in length, and *Anguilla Bengalensis*, which Dr. Day says runs to 4 feet in length, and has been introduced into the Neilgherries. This is probably the fish of which Colonel Parsons caught, by his live bait method, one weighing 18 lbs.

Their flavour is much esteemed by some Europeans, and the natives in your camp are always very glad to get them. It is as well, therefore, to know how to catch them; and as they are easily caught, your servants can be allowed to do this much for themselves, if you will be at the trouble to provide them with the simple tackle necessary, and the bait, which in any case you would have to throw away at the end of the day

from its being dead. They will afford *them* a good meal, and *you* beaming countenances to look upon!

The plan is to set night lines with dead fish. Take your dead bait of 4 inches more or less in length, and string one on to a common double eel-hook on wire, by passing the baiting needle down the throat and out at the centre of the tail, and drawing your hook after it till the hooks are well home to the mouth of the bait. Then attach the hook to the line, and having tied a bullet or other good sized sinker to the line, throw it well into the middle of any good, large, deep, still pool; make well fast to the shore, and leave it all night. If you have set half-a-dozen of these, you will probably find two or three eels on in the morning.



These common double eel-hooks are to be bought in India. Messrs. Oakes and Co., at Madras, have them, and so doubtless have the tackle shops in Northern India and Bombay. But a neater arrangement is a common pike gorge-hook, because there you have the weight neatly stowed away inside your bait; and the hooks are shaped so as to sit closely against the mouth of a bait, and consequently to go comfortably down the throat. *Facilis descensus Averno est.* But as to coming up again, *sed revocare gradum*, that's quite another business.

Your night line must be a good stout one, and well made fast, for the fish is strong, very strong, and has the whole night to himself to work his wicked will.

They are all fish-eaters, so the more your servants catch, the better for the little Mahseer, the youthful *Barils*, and the unsophisticated young of the other sorts of game fly-taking fish. Encourage them, therefore, to go in at them heavily, and show them how to draw the hook home so as to lie neatly against the lips of the bait, and so, in fact, that it shall offer no obstacle to a fish that gradually swallows your bait head foremost.

Be wary how you handle *Mastacembli* because of the sharp spines on their backs. Their fry may be seen in the rice fields. They are widely distributed.

I see no *sport* in this style of fishing.

CHAPTER XVIII.

FISHING IN ESTUARIES.

“There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune,
* * * * *
And we must take the current when it serves,
Or lose our ventures.”

JULIUS CÆSAR.

ALL fishing in estuaries is very much, and I am inclined to think entirely, governed by the tides, except, *perhaps*, when monsoon floods somewhat modify calculations by overpowering the tides, and except in the months when the tides of putrid-smelling sea water set in ; then the fish are sickened. But the tides seem to affect different fish differently, so that it is a very difficult matter to work out to a satisfactory conclusion. I have noticed fish taking freely at the very commencement of the flow in an estuary, while not a few fishermen agree that certain fish take best during the latter part of the ebb tide.

I am inclined to think that the former are chiefly the rock-fish *Lutianus roseus*, and *Chrysophris datnia*, and *C. berda*, and sometimes *Lates calcarifer*. The latter are the well known *Bàmin* of the Malabar coast, *Polynemus tetradactylus*. The latter go to sea with every tide, I believe, whereas the former do not leave the estuaries, I think ; and this difference in their habits may well account for the difference in their time of feeding.

Watching an estuary I noticed that when I first came to the spot all was quiet, not a fish was moving. Then the tide turned to flow, and I saw all along the edge of the river, between me and the sea, heavy fish rushing at smaller fish, and making great swirls on the surface ; when they came opposite me, the place was alive with big fish striking little ones ; but it did not last more than a quarter of an hour : with the

advancing tide the swirls passed upwards, and I could plainly watch their course into the far distance. It was clear that the text at the head of the chapter was closely applicable, and it came into one's mind at once

"There is a tide in the affairs of *fish*,
Which, taken at the flood, leads on to fortune."

It was not the same at the ebb tide. It was only at the commencement of the flood tide that the fish were moving. These fish were, I am inclined to think, the rock-fish mentioned above, and sometimes *Lates calcarifer*.

But why is it, you will want to know, that the big fish in estuaries cannot be content to feed in one place, like the big fish in the rivers above tidal influence? Why is it that they must be for ever advancing with the advancing tide? You want a reason, and I will give you one. If you place yourself on a projecting rock, or stone jetty, and watch the first flow of the incoming tide, you will see innumerable shoals of minute fish, from an inch long and upwards, coasting busily up the river.* They are near the surface, and you can see them well. Keep motionless, and as much out of sight as you can, that you may not frighten them or anything else, but may see them pursuing their natural course. How pretty and sociable they look! Dash into them goes a huge open-mouthed ruthless-looking monster, and makes a cruel gap in their closely-packed column. It is pitiful to behold. Poor little things, how like they are to soldiers when a great round shot has torn through their ranks. They close up again and press on.

"They fill
The ranks unthinned though slaughtered still."

Dash goes another monster, or, perhaps, the same one, and again there is an obvious gap. "Close up, close up," is the word, and so

* They coast, because there is always a back-draught, or back-flow of water, at the edge of every stream, in the opposite direction to the main current of the stream, and caused by the stream carrying down, by friction, water that must return to fill up the vacuum it left as soon as it is released from the power of the friction that removed it. This back-flow is constant in all rivers throughout their length, and the tide on entering a river, and while still contending with the current of the stream, takes first advantage of this *back-flow*, and accelerates it, till merged in the general inflow of the tide. Small fish wishing to ascend a river take advantage of this back-flow, which is always running up each shore, and thus by coasting they get up a river, without having to swim against the stream.

they keep pressing on up stream, apparently very much frightened, but still unwavering in their purpose of pressing on up the river, with all their little strength. What their purpose is in resolutely struggling up stream, and whether they are small fish or fry I am not certain; but I have a strong suspicion that they are the minute fry of mullet, which, I am assured by native fishermen, ascend and descend for the sake of food with every tide, and which I know are caught in large numbers by taking advantage of this their habit. When they have passed the fish cease taking. Whether it is because the big fish have followed the little ones, or have turned their attention to other food, as trout will when the rise is over, I cannot say; but that it is no use fishing for them I can say.

For the brief period that the small fish are passing, you will have excellent sport. Put on a dead fish, and spin as for jack, with stout hooks on rust-proof wire gimp, for which see page 208. Gut will not do, it will be cut through in a trice. The gimp, too, must be stout. I have had every available bit of tackle broken by successive fish in twenty minutes. But then I was learning; I was buying my experience a great deal dearer than you will buy this book. But I have made the fish pay for it eventually, for, when a shoal has been passing, I have taken toll of them as fast as ever I could land them and throw in my line. It is "a short life and a merry one." The tackle may be the same as recommended at pages 69, 70.

Polynemus.

But the best fish to be caught in estuaries is the *Polynemus tetradactylus*, Plate xv., well known to sportsmen on the West Coast by its Malayalim name, *Bà-mìn*, pronounced Bār-meen, and all too well known for its tackle-breaking propensities. "They eat an astonishing lot of phantoms," writes a friend, bemoaning his tackle. The fish I spoke of in my first edition as the Pàmban salmon is either this same fish or *Polynemus Indicus*. I have caught and seen them caught with a fly at Pàmban, and seen thousands netted at sea, and seen them, unfortunately, only when they were sick and unfishable in the estuaries. So I have indented on my friends for details of their manners and customs in the estuaries. I am chiefly indebted herein to Colonel W. Osborn, then Commanding 9th M. N. I., who has most kindly been

at much pains to draw up a paper which, it will be seen, forms the body of this chapter.

The mouth of the Bà-mìn is placed well underneath, the nose being very prominent, as may be seen in Plate xv., and the jaws and the inside of the mouth (vomer and palatines) are armed with villiform, or file-like teeth, which not only cut through any tackle, except wire or gimp, but present a hard and bad hook-hold. The eye is covered with a fixed transparent membrane, through which the eye may be clearly seen moving free of it inside it, and which is so tough that Colonel Osborn has twice hooked fish foul by it and landed them. The free rays of the pectoral fins are singularly prolonged.

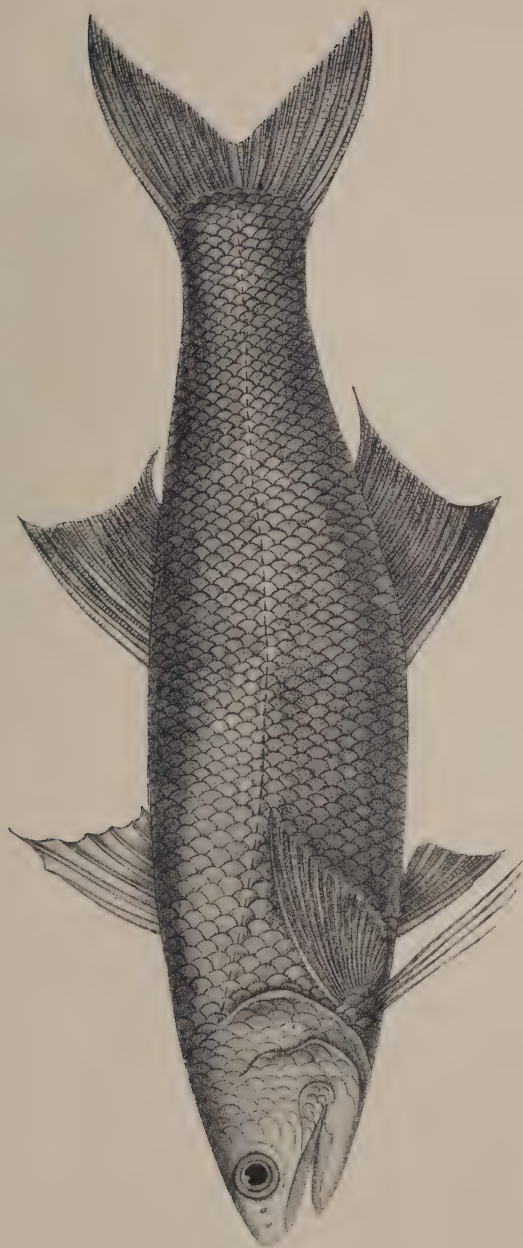
Dr. Day says that in this species "the free rays reach to nearly the end of the ventral." The individual from which my drawing was taken was only 1 foot long, and possibly youth may have something to do with their growth. Unfortunately my approaching departure for England prevented my being able to get a larger specimen to draw from. The first dorsal is also wanting, in the drawing, of one short small spine. This *may* have been an oversight of mine, and I cannot positively say it is not, for I have not brought the fish home with me, whereby to reverify, but I think I took every possible precaution against oversights. It *may* also be a vagary. Dr. Day's footnote shows that other observers have found such divergences from rule in this fish.

Like the Bass fish, which is sometimes called the Salmon-bass, it has a rough general similitude of shape and silvery colour to the Salmon. All anglers agree that it is much more powerful than the salmon.

Colonel Osborn writes :—

"The lying places of the Bahmeen in the tidal backwaters are in the swift, deep runs, where the incoming or outgoing tide produces a quick stream, with a strong ripple, where the stream is narrowed between submerged rocks, and where, as a consequence, the run is swift and the surface broken; and where there are side eddies is a very favourite spot with them: they seem to be attracted thither by the small fish which abound in the side eddies.

"Bahmeen are also found among the piers and piles of wooden or iron bridges, such as the bridge across the river at Mahé, or the three bridges on the Cannanore side of Tellicherry. These are their haunts, and it is of no use fishing for them until you observe them on the feed; in fact, you will



not know that there are any Bahmeen about till the tide begins to ebb or flow, bringing up or down with it shoals of small fish, principally young grey mullet, and on these latter, while they are running, the Bahmeen principally seem to feed. In fishing for Bahmeen these small grey mullet form the most attractive bait that the fisherman can use.

"At such times of tide and at such places as I have described, you will not be long in doubt as to where the fish are, or the proper spot to fish for them, for as soon as the ebb or flow settles into a steady stream you will see the Bahmeen dashing up at the small mullet every minute and throwing themselves completely out of the water. They will continue to feed in this way till slack water.

"I have heard it discussed whether Bahmeen feed and take best on the ebb or the flood tide; in some waters, possibly at certain times of the year, these fish seem to take more readily on the flood than on the ebb tide; such I found to be the case once on the Mahé river when fishing from the bridge there in the month of April, but, as a general rule, I think it will be found that Bahmeen take best on the ebb tide, though it is also possible to catch them on the flood; but, after a good deal of experience, the ebb is the tide I recommend, though when the tide is flowing it should not be neglected, as you are always likely to get a run or two even on that tide."

This question of the right time of the tide has exercised many great minds, and I have quite a bundle of letters on the subject from observing fishermen kindly wishing to help me to a right decision in the matter. Their views differed from time to time, but the end of it was that certain of them, personal friends, well known to me as good fishermen, met together for a combined Bàmìn attack, and after putting their own several experiences, and those of their friends together, wrote me what I shall call the report of the Bàmìn Committee. It entirely confirms Colonel Osborn's view, for though it may seem to limit it somewhat, it will be seen that a subsequent quotation from the same pen qualifies the limitation just as Colonel Osborn has qualified it. After so much diversity of opinion as there has been, a concurrence of opinion is satisfactory. "The reason I had never succeeded before was that I was always told to go at low tide just at the turn, whereas the time is two or three hours before the low tide. An hour before low tide they are quite off the feed, and probably not there." These views are again confirmed by another fisherman, R., who tells me that not only has he fished for Bàmìn with advantage during the last quarter of the ebb tide, but has, in a boat, followed them down with the tide, and caught them all the way down to the very sea.

Colonel Osborn continues :—

“As with the Mahseer when he makes his first rush, so with the Bahmeen, the smallest check and you part company, for he is a strong and hard-mouthed fish.

“The rod I like best for this kind of fishing is one of Farlow’s Pike spinning-rods, bamboo for choice. Mine is 12 feet long, with its short top,—for Bahmeen I prefer the short top—as I would, indeed, for Pike, for the long flexible top joint is only of use in spinning a minnow for trout. Note the length with short top, 12 feet, because the farther you go beyond this length, the less line you can throw out, the exertion in throwing will be greater, your control over the line not so complete, and the cast not nearly so perfect and artistic as that which can be got out of a 12-foot rod.

“The reel should carry 100 to 120, or 150 yards of 8 plait smooth running, spinning line; not a corded line, for in spinning either from a bridge or from the banks for Bahmeen (which latter you may have a chance of doing), you have to spin in exactly the same way as you spin for Pike, and a corded line would kink and spoil your sport.”

“A gimp trace,” he continues. But the gimp of those days is now out of date in comparison with the rust-proof wire gimp mentioned above, page 208, and the flight of hooks may be the same as for Mahseer and others, as illustrated on pages 69, 70.

“It will save you time and trouble, for you only have one really good tide to fish on, if you have six or seven of these flights ready baited.

“Baits are the next thing to speak of, and I will confine my remarks on this point to natural baits, as I have tried for Bahmeen with both spoon and phantom without success, though I have heard that others have found the spoon and phantom answer.”

I may here put in a word to say that not only have others written me of kills made with phantom and spoon, but one used nothing but phantoms, and exhausting his shop supply had to set up a home manufactory thereof. I, too, have killed and seen them killed with a white fly in the Pàmban Channel. But a fish bait, as argued above, is doubtless the deception nearest to their natural food; apropos of which remark it was that I was once upbraided in the presence of these very Bàmìn, “You have written a book to teach men how to deceive.”

“A young grey mullet about 3, 4, or 5 inches long, is the best bait that can be used; these small mullet are not difficult to procure, for they abound in all waters inhabited by the Bahmeen, and the latter seem chiefly to feed upon them. On the shores of these waters also native fishermen and casting nets are always to be found. Some time before the turn of

tide, set one of these men to work with his net, give him a bait kettle, or an earthen pot as a substitute, to hold the baits, and bid him be careful to sink the kettle in the river each time he puts fresh baits into it, as natives have no idea of the necessity of supplying fish frequently with fresh water to keep them alive. By the time the tide ebbs or flows you should have enough small mullet to last you a day. Other small silvery fish will, of course, do for bait, but the mullet is decidedly the best, being the favourite food of the Bahmeen, and being also very tough and lasting, bearing the same proportion in these latter qualities to other fish, as a gudgeon does to a bleak or a small dace. Should there be any difficulty in procuring baits at any particular spot, small mullet or other fish can be preserved for a short time in a wide-mouthed bottle of spirits of wine or methylated spirits. I have several times used baits thus prepared, while Bahmeen fishing, and found them answer very well. Baits do not get soft in methylated spirits, and their toughness is very well preserved.

“Having now mentioned rods, tackle, and baits, I now turn to the actual capture of the fish.

“As I have already said, when the tide steadies into a regular stream you will, if standing on a bridge, soon see the mullet and other small fish darting in different directions and the Bahmeen dashing after them. Commence spinning at one end of the bridge by throwing out as much line as you can control; let the bait trail and spin in the water, and be careful to spin well over those spots where you have seen fish rising. Hold your rod with both hands across your chest, with the point rather elevated, and without making another cast walk at such a pace as will keep the bait spinning nicely to the other end of the bridge. And now comes the question, which is the best side of the bridge to fish from. This is an important point. The best side of the bridge is that towards which the stream is running, the reason being that mullet always work up against the stream, and the Bahmeen always lie in wait for them on that side of the bridge towards which the stream runs, so that as the shoals of young mullet toil slowly up against the tide and make their way through the arches of the bridge they fall an easy prey to the Bahmeen, which are lying in wait for them and hiding behind the piers and piles of the bridge on the other side. When there are a large number of fish about they can be caught on both sides of the bridge; but the rule I have given as regards what I may call the stream side should be adhered to.”

This is Colonel Osborn's view. I am not prepared to contradict it. But my own idea is that the mullet fry go with the tide both in and out, and that the Bàmìn hide or rest behind the piles as Trout, Salmon, and Mahseer ordinarily do behind rocks (see page 90). However, the fishing rule here given is equally supported by either theory.

“In nearly all of the bridges I have mentioned in these notes you will

find projecting planks outside of the hand-rail, or balustrade, on both sides of the bridge. Climb over the railing and get on one of these planks and spin away wherever you see the fish breaking. This is the best way of all to fish from these bridges, as you have full command of the water and of your fish when you strike him.

"If the Bahmeen are feeding you will not be long without a run, and should the fish run away from the bridge into clear water, get to the nearest end of the bridge as soon as you can, leave it and run up the bank as far as possible, so as to prevent the fish from running through the bridge or among the piles. Having got into a safe place play and land your fish as you best can.

"It is a good plan to have a canoe with a man or two with it moored on the most convenient side of the river, and on striking a fish, should he run through the bridge below your feet, run down to the bank letting out line all the time, get into the canoe, follow, and either play him from the canoe or from the bank below. This is the reason why I recommend a long line, it enables you to do all this. If you are steady and do not get flurried, and your tackle is as strong as it ought to be, even if the fish should run through the bridge below you, you can often, with careful management, work him back again gradually to your side, and send a man down to the nearest pier to gaff him; this only holds good with a masonry bridge. Should a fish behave in this manner at a bridge built on piles a canoe is the only thing to get you out of your difficulty, and even then you may lose your fish and tackle by his running two and three times round a pile, as they are sometimes fond of doing.

"You may, if lucky, find a place frequented by Bahmeen where you can spin for them from the bank, in which case proceed in exactly the same way as if you were spinning for Pike. There is such a place about five or six miles from Cannanore, in the Billipatam backwater, and just at the end of the village on your right as you face the water; the tide at the place I mean makes a deep and swift run between sunken rocks; and at this point Bahmeen congregate and sport is to be had.

"The places I know of where Bahmeen fishing is procurable are Billipatam village, near Cannanore, just mentioned; the three bridges on the Cannanore side of Tellicherry, of which three the centre one is the best; Yellatoor bridge near Calicut, the backwater at Beypoor, Currulhoondy railway bridge near the camp platform and troop rest house, about a mile and a half down the line from the Beypoor station; and there is another small bridge, up the Tellicherry backwater, about three miles from the central bridge, that I have already spoken of as being a good place for sport."

Near the mouth of the Kallei River, in Calicut Town, between the mouth and the bar, is mentioned by M. as another place.

"About the best place I know of for Bahmeen is the Mahé river, where it runs through the little French town of Mahé, about 20 miles south of

Cannanore. From the bridge that spans this river at the entrance to the town, capital Bahmeen fishing is to be had, and you can generally hire a tolerably comfortable bungalow on the bank of the river close to the bridge, and from your window you can always see when the fish begin to feed, so you only have to shoulder your rod, and walk a few yards to your sport.

"I don't know the spawning time of the Bahmeen, but I have had good sport with them all through the monsoon and in the months of March, April, and May. At the end of, and after the monsoon, however, the sea at the mouth of these backwaters becomes almost putrid, and a very unpleasant smell arises from it. When the incoming tide brings this dirty water up the backwaters it seems to poison the Bahmeen, Nair fish, and other large fish; the water has a brown tinge in it, and, as the tide ebbs, numbers of large fish, all dead, float down with it and go out to sea. At these times the native fishermen wade in and secure the dead fish as they pass with a short harpoon. I need hardly say that, during the months when the rivers are in this state, it is of little use attempting to fish.

"In concluding these notes I think I may say that Bahmeen fishing is good sport, and quite worth following. In starting on a fishing trip it is well to be provided with plenty of tackle as the fish are strong and breakages frequent. I don't know what weight Bahmeen run up to, the largest I have landed was one of 9 lbs., but I have seen many larger than this which have been caught in nets, some of the latter having scaled 11 and 12 lbs. A Bahmeen of this weight would give very good sport."

I have seen thousands of *Polynemus Indicus* brought ashore by a fleet of netting boats: 12 lbs. was quite an outside weight. They averaged 10 lbs., and were all very much of a size. Day gives much larger sizes for *P. tetradactylus* as will be seen below.

"When taking your bait the Bahmeen does so with a violent rush, in the most determined manner, and away he goes at his best pace as soon as he feels the hook. After he has gone a few yards, and you can safely do so, strike him twice so as to drive in the hooks, for he is by no means a leather-mouthed fish like a Mahseer, and without some such performance on your part he is apt to get rid of the hooks as soon as the line slackens, which, by the bye, you should always endeavour to prevent. Be careful to have your line clear and free, for if there is a check of any sort when the Bahmeen has made up his mind to go you will probably have to lament the loss of both fish and tackle."

I never could be persuaded to endorse this striking of any fish after he is hooked, my own belief being that if you will only keep on sufficient

pressure his struggles will do all the jerking you can possibly desire, and that it is very dangerous for you to slacken ever so little for the purpose of getting up a jerk.

Before parting with the Bàmìn, I will quote from M., whom I have already quoted as a member of the Bàmìn Committee :—

“We are agreed that they run stronger than Salmon for their size; but with gimp, and 100 yards on a good reel, the only danger of being broken is their charging the piles under one’s feet. The first one that tried that broke me, but I find that with judicious use of stones they can be kept off, and one gets down at last on to the shore of the river and brings them to the landing-net.”

But the same writer had rather a rough time of it afterwards, as the following letter will show :—

“I had rather a disastrous morning with the Bàmèen the other day. A peon on watch reported they were feeding at daylight, though it was then almost high tide, just beginning to run out. A lot of fry were under the bridge, the Mullet were eating them, and the Bàmèen the Mullet. This was under the still arches near one side, instead of, as usual, in the centre where the current is strongest. The first fish I lost after playing a few minutes. Hold gave way.

“The next, a very lively fish, drowned me as I was getting off the bridge as he ran down stream and got a bush between us. However, being well hooked he did not get off, and I got the slack in, and had nearly tired him out when, to my horror, I found the reel running stiff, and at his next rush I could not give it him fast enough, and the bait came back with one of the tail trebles straightened.

“It turned out that a screw inside the reel had started and jammed against the disc, into which it was cutting, and when opened the box was full of brass filings.

“This was, then, bad luck. I then put on a fresh phantom, having, luckily, a second reel and line, and had two or three runs, the fish missing being hooked.

“This I attribute to my having tied the treble on stiff wire, making the whole bait stiff. I then put on a guttapercha bait, a great favourite, and had hardly begun when a fish took and bolted at once round a pile. I make it a rule to break them directly they get close to a pile, but this one I gave line to in hopes of saving my bait, and did so, a large treble breaking. I got a boat and rescued line and bait but found the casting line all frayed against the barnacles on the pile. I had now to set to work and tie the stiff phantom afresh with gimp; and, while doing so, a monster rose under one of the arches. As soon as I was ready I went

at him and soon hooked him. He went down stream, and after ten minutes I began edging off the bridge to get to the bank when he suddenly came charging at me to get under the bridge. His power was enormous ; and, in spite of stones and a long bamboo with leaves tied on the end, he came under and actually got a few yards above the bridge, I being in an upside down position, and holding him very tight. At last he made for the piles and broke me. This was the biggest fish I have hooked, and I think he must have been from 15 to 20 lbs.

"Had I then had what I have now, a wooden ladder fixed into the centre piles, and a boat moored with men ready, I could easily have killed him by following him on his first rush, and getting below him if he tried to make up for the bridge. Next day I went out. I had hardly begun when a brute came and took me and instantly went round a pile and broke me. This made seven consecutive fish that had broken me here. I then hooked and landed a 6-pounder, using the ladder and boat. I have lost three fish round piles after they have run away fairly down stream, and this, of course, is avoidable ; but if they go at the pier at once there is no remedy. It seems to depend on where one's bait is. The fish naturally pulls against you ; and if your bait has been swept 8 or 10 feet down stream he runs down ; but if he takes almost under the arch he runs in.

"In one case I purposely gave a fish line instead of breaking to see what he would do, and this was the result."

Here was a sketch of a labyrinth of piles with which, dear reader, you must kindly dispense.

"I unravelled the maze, and finally, after going from pier to pier in a boat, caught sight of my friend at the eighth pier. The run I must tell you was all done in a few seconds. It took ten minutes or a quarter of an hour to work it out, and I could at one moment have checked the fish had I been ready. Seeing me close to him he took three turns round the pile and broke. The last few days I have been out fish have not been feeding. I have a theory that every fish left there has got a phantom in his gills.

"I think you will admit that they treated me badly that morning. They seemed to have determined to show me what they could do. They straightened one treble, broke another, a large strong one, filed the casting line, pulled off one phantom's head, demoralized a reel (one of Bowness' best Mahseer reels) by sheer hard running, and, finally, the big chap tried all he could to break the rod and has given it a permanent bend."

In the Pàmбан channel, just opposite the Superintendent's house, there are, or at least there used to be some thirty-five years ago, a number of splendid runs. It is to be hoped the Government has not

cleared them away for the benefit of the shipping !! Probably not, for they were not in mid-channel. There was a fish there that we used to call the Pàmban salmon; and were well content with the name, for in those days I had not troubled my head with fish nomenclature and classification. It turns out to be our mutual friend Polynemus. Either *P. tetradactylus* or *P. Indicus*, probably the latter. I only had one hour at them, but it is a day to be remembered in all my lifetime. What splendid sport they gave! We anchored the boat at the head of the run, and fished below us in the middle of it. We used a full-sized salmon fly, made of nothing but the white feather of a quill pen, tied palmer-fashion all over it. Much the same fly is used for Bass in England. How freely they rose, and how vigorously they tugged. My companion, who put me up to it, and provided rod and boat, lived there, and used to catch any number of them. But there were certain seasons, he said, in which they would not take at all. Which were the favourable and which the unfavourable months, I cannot at this length of time recall. W., fishing there in October, writes me: "Pamban salmon do not come on till late in the year." I presume he means later than October.

The then Port Officer of Pàmban wrote me on the 28th of September: "Polynemus is just coming in season and will be plentiful next month."

The natives, in fishing for Bàmìn, use a strong cord, with a large sea-hook, on a piece of bell-wire. But they use much direct force in pulling in their fish, because they have very crude ideas about the *suaviter in modo, fortiter in re* principle of running tackle on a reel, which enables you in time to kill a heavy fish on a light line. Don't be alarmed, therefore, at their tremendous preparations, but trust to stout wire gimp, and a salmon rod, with a good length of line, and making your fish work as hard as you dare for every inch of it. Do not waste a bit of it by giving it too easily. The native fisherman may examine your tackle, and condemn it as too weak, and you may be disposed to believe in him, because he has actually killed the fish, and ought to know. Never mind that; just do with him the very same as you will probably do with this book, namely, listen to all his advice, and then *don't* follow it. Only draw your own conclusions therefrom. At the same time you need not be uncivil, or he will become uncommunicative. Do not rudely disturb his complacent belief that you

cannot help yourself, that your tackle is not so good as his, and that you must make the best of a bad job ; and then, when you land a fish nevertheless, he will be all astonishment, and doubly anxious to show you there is still "a thing or two" which he knows better than you ; and you may pick up many a useful wrinkle from the native fishermen.

It is now time I made the usual descriptive quotation from Dr. Day's "Fishes of India," and bid good-bye.

Sub-class. TELEOSTEI.

Order. ACANTHOPTERYGII.

Family. POLYNEMIDÆ (including eight species).

Polynemus tetradactylus. B. vii., D. 8 $\frac{1}{13-15}$, P. 17 + iv., V. 1/5, A. $\frac{2-3}{15-17}$, C. 17, L.l. 75-85, L.tr. 8/14. Cæc. pyl. many. *Habitat*: Seas of India to the Malay Archipelago and China. Attaining 6 feet and upwards in length. It is excellent eating. This species appears to ascend higher up the rivers than any of the others, and the young are numerous in the Hoogly, at Calcutta. Ham. Buchanan observes: "I have been assured by a credible native that he saw one which was a load for six men, and which certainly, therefore, exceeded in weight 320 lbs. avoirdupois." (Fish Ganges, p. 225.)

P. Indicus. B. vii., D. 8 $\frac{1}{13-14}$, P. 15 + v., V. 1/5, A. $\frac{2-3}{14-12}$, C. 17, L.l. 70-75, L.tr. 7/13, Vert. 5/19. Cæc. pyl. many. *Habitat*: Seas of India to the Malay Archipelago, and Australia. It attains 4 feet in length, but is rarely above 20 lbs. weight.

The Begti.

Lates calcarifer is said by Dr. Day to be the Cock-up of Europeans, though how it got the name I know not. I found it well known in Calcutta as the Begti. It is also called the Nair fish by Europeans. The Canarese called it *Kulanji* when small, *Madavu* when large ; just as we use the terms Jack and Pike. The Malayalim name Colonel Osborn writes is "Coollon, the final *n* being pronounced as the *n* in the French place Dijon." For other vernacular names, Dr. Day shall be quoted hereafter.

I have seen them weighing 30 lbs. on *terra firma*, and Colonel Osborn says he has seen them over 50 lbs. or 60 lbs. in weight. They are a sea fish frequenting the estuaries, and are found in company with the Bàmìn. Their mouth is similarly armed with numerous minute file-like (villiform) teeth ; their colour is silvery, with a bronzy sheen on

the back. Plate xvi. will aid recognition. The young have not the humped back seen in the adult fish.

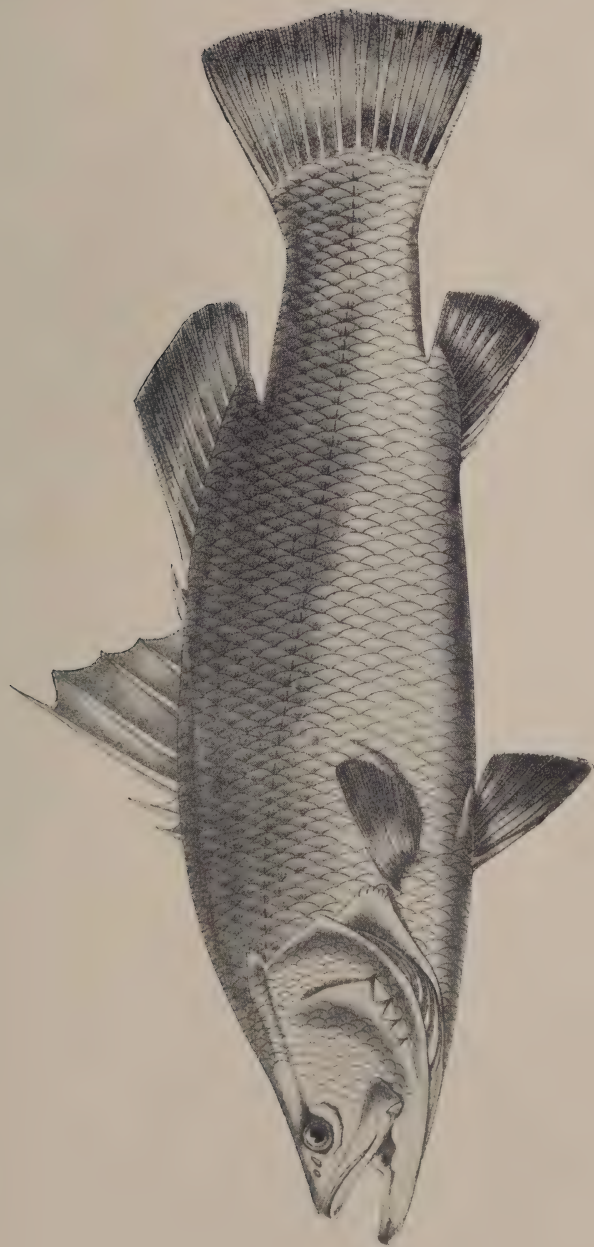
I have done not a little business with these fish myself, but Colonel Osborn seems to have had more opportunities of watching them, so I will quote his kindly contributed paper :—

“When the S.W. monsoon is at its height, and the rivers are very much discoloured by the floods from the western mountains, the Nair fish enter the backwaters, which are then quite thick from the inland floods, and congregate about the bridges in company with the Bahmeen : during the day they seem to take best when the water is most discoloured, coming in with, and feeding on, the flood tide ; they have a large and very brilliant eye, and possibly can see well in thick water while they themselves are concealed from other fish whose vision is probably not so perfect in muddy water, and I am strengthened in this opinion by having noticed the nocturnal habits of the Nair fish, and observed them feeding during a good portion of the night.”

The tackle I would recommend is the same as for Mahseer, and Freshwater Shark, and Bàmìn, illustrated on pp. 69, 70, except that as the water is coloured, and the bait larger, you can put on a third hook, leaving a clear space of an inch below the other two, and your bait may be 5 inches long. If you so fancy you can increase the size of your trebles two sizes, from No. 8 to No. 6, as I believe Colonel Osborn would. But I would not, I should stick to No. 8.

“The bait should also be larger than that used for Bahmeen, as this fishing is carried on in thick water and at night. Rod, line, trace, snood, and hooks, should all be strong, for when the Nair fish really finds out that he is hooked, he starts off on a journey which is a pretty long one before he stops. I allude here to the large sized ones. I once struck one that must have weighed about 50 lbs., and off he started up the river ; I only had a medium sized gimp trace and snood, so dared not check him. I managed to jump into a canoe from the bank, and followed him for about 400 yards before he stopped. In a subsequent struggle he broke my snood and I lost him. A friend of mine followed a fish of similar size for about the same distance up the river before he came to a standstill, a few days before. I mention this incident to show that, when these fish make their first run, after being struck, they go far. Let them have their run out and keep them going afterwards if you can.

“In spinning for the Nair fish you should spin slowly ; he takes the bait, not with a rush like the Bahmeen, but slowly and deliberately, as compared to the hurry of the other fish. And sometimes, while fishing



LATES CALCARIFER.

rather deep, as the fish does not always rush off after taking the bait, I have not known that I had a fish on till I felt the check on drawing in the line. I have known a Nair fish, after taking, move about at a quiet pace as if nothing had happened, when it suddenly appeared to occur to him that he was 'on,' and off he went for his run. It does not answer to check this, or any other fish, while he is running, even if there be danger ahead; try and let him have his run out, for these strong and heavy fish have a way of plunging violently when checked, which is fatal to tackle. As soon as the first run is over reel up quickly till you are as close as you can get, and then start him for another cruise. Continue in this way till you can master him without fear of a break. In mentioning these precautions I allude again to the fish of large size, the smaller ones are easier dealt with, but the large fish are so heavy, that caution is necessary in handling them when they are inclined to plunge and be restive.

"The best time for fishing for the Nair fish is, as I have said, for day-work, during the monsoon, when the waters are thick. At other times when the rivers and backwaters are clear, commence fishing soon after sundown and go on as far into the night as the fish are 'on the feed,' for you will hear them splashing and feeding all about you. When they have stopped doing so it is not much use trying for them any more.

"The break of a Bahmeen you never can mistake for that of a Nair fish: the former is a sharp and violent splash, the spray flies in every direction, and the Bahmeen nearly always shows himself; that of the Nair fish is a deep-sounding plunge, the sound of which a practised ear can recognise, even in the night, when you cannot see the break; there is not much spray and the water subsides with a peculiar swirl.

"I have here noted all that I know at present about the Nair fish, for, compared to the Bahmeen, he is, I may say, a new acquaintance of mine. I will only add that, for this fish also, a small grey mullet is the best bait that can be used. I have mentioned, also, as a peculiarity of this fish, that he takes a bait rather slowly, and in a much quieter style, than the Bahmeen does. This is what I have observed during a somewhat limited experience of the habits of the Nair fish, a period not extending over a full year. There are times, I believe, when the Nair fish takes a bait greedily and goes at it with great eagerness.

"The ways of fish differ so much under various conditions—local and atmospheric—that it is impossible to find out all about them, or even to arrive at a correct knowledge of a good many of their habits without close observation, extending over several seasons.

"These notes are simply the result of my own observation of the fish, whose habits, and the method of whose capture, I have endeavoured to describe. They are intended, not so much for the use of sportsmen, many of whom are probably better informed on the subject than I am, but for those to whom a few hints as to where and how to obtain sport may be useful."

I have let Colonel Osborn's opinions stand as they are, but for my part I do not see the advantage of letting a big fish have his run, except it be that you get a belly on the line which acts as a cushion to sudden jerks. I would rather contest every inch with him from the first, trusting to the elasticity of my top joint and to my tackle being fresh and good to help me over the angry plunges, at each of which you make the usual concession to his temper of a momentary slight lowering of the top of the rod, a concessionary bow so to speak, and the more passionate he is the cooler you must be in watching his temper. So doing I would even take a little extra toll out of him with my brake-winch, page 17, as soon as I got him settled down to a good even gallop, for the first violent burst is always soon over the worst of it. There will be no increased danger of a consequent break of tackle, because the brake is so completely under control that you can ease off instantaneously if he gets passionate. A British Ambassador in foreign parts, whose programme was laid out for him, as I am laying out yours here, wrote Lord Palmerston that if we did a certain thing the foreigner threatened war. Old Pam's answer was prompt, brief, and characteristic: "Tell them two can play at that game." You say the same to your fish. I don't see why they should have the game all their own way. I like "cutting in" and taking a hand myself with just a pound or two of extra tension. But always, mind you, at the right time, judiciously applied, with a delicate touch of the thumb on the spring button. And it is this judicious application, this employment of one's brains in fishing, that is an extra pleasure. It makes the conquest more scientific as well as much more certain. Many risks of rock and snag, and sag and slack line, and fresh breathing space, are avoided by keeping a straight line from rod to fish. And much time is saved by *continuity* of tension; not brute force, that I never advocate, but evenly regulated continuity. Of course Pam killed his fish. And so will you if you mind what you are about.

This fish has also been caught in the Fort moat at Madras; they would seem to have got in through the sluices as fry. One of these fish caught there by Mr. Robinson, and now stuffed in the Madras Museum, weighed 33 lbs. 5 ozs.

They are in all estuaries on both coasts of India, certainly as far north as Calcutta. At Cochin a good fisherman gave them up as a bad job, as "they had walked off with and smashed everything he had

tried them with." They have done the same for me too, but that was in days when I was not so well equipped. So there is "foeman worthy of your steel."

Sub-Class. TELEOSTII.

Order. ACANTHOPTERYGII.

Family. PERCIDÆ.

Lates calcarifer. B. vii., D. 7-8 $\frac{1}{11-12}$, P. 17, V. 1/5, A. $\frac{3}{8-9}$, C. 17, L. 1. 52-60, L. tr. 6-7/13, Cæc. pyl. 3.

Dangara, Sind; *Nuddee-meen* or *Nair-meen*, Mal.; *Painnee-meen* or *Koduwa*, Tam.; *Pandukopa* or *Pandu-meenu*, Tel.; *Durruah* and *Bekkut*, Ooriah; *Begti*, Beng.; *Nga-tha-dyk*, Arrac; *Koral*, or, if large, *Baor*, Chittagong; *Todah*, Andam.; *Cock-up* of Europeans.

The Red Perch.

In the Madras Fort moat I have also caught spinning as for the two previous fish, *Lutianus roseus* of 5 lbs. weight, and I have caught them in estuaries, and in a pond at Cundapur where they had become acclimatized to nearly fresh water. They are an estuary perch frequenting the rocks. The bait should ordinarily be much smaller than for the two previous fish. Say the same size as for Seetul, page 218, only it would be safer, because of their teeth, to have the tackle mounted with wire gimp, page 208. No. 4/0 with a breaking strain of 12 lbs. should be amply strong enough.

The Canarese name is *Kembèri*.

Family. PERCIDÆ.

Lutianus roseus. B. vii., D. $\frac{10}{14}$, P. 16, V., 1/5, A. $\frac{3}{8}$, C. 17, L. 1. 48, L. r. $\frac{57}{50}$, L. tr. 7/18.

The Grey Perch.

The Grey Perch, *Chrysophrys berda*, is a similar estuarial perch, to be taken with similar tackle, in the same places as *Lutianus roseus*. I have taken them as above, but friends who are reliable fishermen tell me that they are specially partial to a prawn. In case you should wish to invest in prawn tackle here it is for you to look at and select for yourself. I have had no personal experience of its use, but with my usual preference for light tackle I selected from three different sorts the one with fewest hooks, but my tackle-maker writes me that it was

his older pattern which he had to give up because there were so many complaints of salmon biting the back of the prawn without getting hooked. Now I don't suppose he himself believes for a moment that there is a salmon swimming who is so canny, even in Scotland, as to take the prawn by the back alone, without closing his mouth on the whole prawn. But he has to cater for his customers, and to my thinking it is the old question of anglers' fancies, and for my part I remain an advocate of light tackle, preferring to run the slight risk, if any, of losing an odd fish now and then from having too few hooks, to the far greater probability of losing many a run at a bait armed with too many deterrent looking hooks. Still I give the



objection for what it is worth, not knowing which way my reader may lean, and if he thinks there is a wily Asiatic fish that will take his prawn by the back, he can select accordingly, and I am the more profligate of illustrations because my readers, being mostly far from tackle shops, are more than ordinarily dependent on them. Bait by inserting the point of the needle just below the tail, and bringing it out at the breast of the prawn, and into an eye in the shank of the tail treble hook, which is then pulled just home, and the tail of the prawn made fast to the trace by a turn or two of any dark thread.

To suit these estuarial fish with their many teeth, the tackle might with advantage be dressed on No. 4/o wire gimp.

I confess I never used prawns as a bait myself, but as prawns abound in India, and not only in estuaries, but also in fresh waters, I can well imagine that they should be a good bait, and not for this fish only, but for many. Some Indian prawns, as *Palemon carcinus*, of the Indian seas and the Ganges, attain a foot in length. I saw one $6\frac{1}{2}$ inches long taken in a fresh-water pond in the People's Park in Madras. The cannibal was taken on a prawn bait on a hook. In Calcutta the natives frequently fish solely for prawns on a hook about the size of a roach hook, using prawn as bait. They give them plenty of time and do not strike, as for fish, but tauten and lift out without a jerk. Practice shows the difference between a slow prawn bite and a smart fish bite with lively bobs. The float goes slowly down and stops down just a little below the surface. A minnow hook should be better than a roach hook. Prawns use their nippers to steal your bait and convey it to their mouths if small enough. I have seen one fisherman with quite a dinner for a dozen thus captured.

Day says he has seen *Chrysophrys berda* 30 inches in length. They ordinarily run from 2 lbs. to 5 lbs.

Elops saurus.

This is another estuarial fish, to be caught in the same way as the two previous fish, and also with a white fly, small salmon size, say No. 3 Limerick. It is a long thin fish, very active. I have seen it taken a foot long and natives say it grows to 3 feet long by 1 foot deep. Its Tamil name is *Alàti*.

Megalops cyprinoides.

Megalops cyprinoides, which it is as easy to call *Megalops* as anything else, also takes a bait well at times. I have come across them coming up an estuary in a shoal, and it was like hauling in Mackerel; and they run about the same size. There was a fish on as fast as ever you could get your line into the water. But the fun was very short-lived. It was in mid-stream, and they were all past the boat in a very little time. I have also taken them on a May fly and a Carnatic Carp fly, in a pond which was connected with the Adyar estuary. I had only 30 minutes to spare, and in that time, on a light trout rod, took six of $\frac{3}{4}$ lb. each, lost four more among weeds, and had one fly bitten

off. Some of them sprang a foot in air, and all fought well. If I essayed them again I should try a fly a little larger. I have also taken them with a dead bait and float. I have seen them in Calcutta, and they are on both coasts. They acclimatize very readily to fresh water, and grow fast, as I know, and breed, as I am told, in ponds. But they must be very destructive of the fry of other fish. It is not a prudent thing, therefore, to put them into any pond in which you wish to breed fish. But natives are fond of keeping them in ponds, and in a Fort ditch or any place into which predacious fish have already got it may be added without injury. Plate xvii. will help you to recognize it. The Tamil name is *Morāṅ Kendai* and in places *Pāl Kendai*.

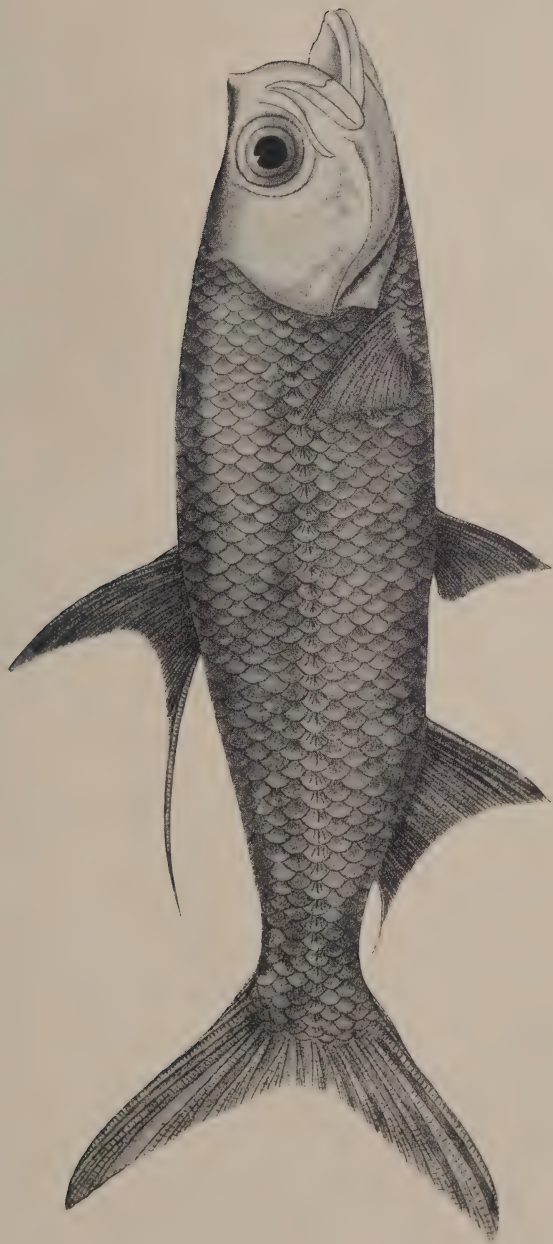
Order. PHYSOSTOMI. Family. CLUPEIDÆ.

Megalops cyprinoides. B. xxiv.-xxvi., D. 19-21 ($\frac{2}{17-18}$), P. 15-16, V. 10, A. 24-27 ($\frac{2}{22-25}$), C. 19, L. 1. 37-42, L. tr. 5-6/6.

Punnihowu and *Naharn*, Oorlah; *Cunnay*, Mal.; *Moran cundai*, Tam.; *Nga-tan-youet*, Burmese.

The Seer.

If you try the same tactics at, or close to, the mouth of a river, as have been recommended for Bàmìn, you may get the Seer fish, which is a splendid fellow. I do not think they ever come far into a river. Indeed, I am pretty sure they do not. I once saw a fine one of 15 lbs. killed in a funny way. A friend and I were spinning for them. I left my friend spinning at a projecting sand spit, at the mouth of the Mangalore harbour, which is cut abruptly away by the current, and is very little above the water level. He threw out his bait, and spun it home to him, and had just pulled it out when, to his astonishment, and I believe alarm, a 15 lb. Seer fish, in dashing after it, sprung clean on shore, at his very feet. There he was, a fine fellow, flopping about, and in imminent danger of getting into the water again. All hands punched his head, with the butt of the rod, with boots, for we had been bathing, and anything handy, and with any amount of excitement. Meanwhile, others of us were in a boat trying the mid stream, and coming back we were shown the fish, as if it had been a legitimate bag, with a long yarn about the line it had taken out, etc. But I had happened to get a glimpse of it in the distance, and joined in, therefore, with their story, saying, "I saw you *showing him the butt*."



MEGALOPS CYPRINOIDES

I am inclined to think much fun might be got out of the Seer fish. The matter wants developing.

H. writes : "I caught a couple at Ponany, and I never saw finer running. I do not think I exaggerate in saying they leaped 8 feet out of the water at times. They were 15-pounders." The writer, be it remembered, is no tyro, easily exhilarated, but an old salmon fisher, and otherwise a mighty hunter.

The Seer fish is *Cybbium*, of which there are five species in the Indian Seas, attaining some of them 3 and 4 feet in length. They are excellent eating. Their mouth is full of very formidable teeth. They are a sea, not an estuary fish.

It should be remembered that Seer are not always present. They do not make their appearance till a month or so after the close of the monsoon, when they follow up the little fish frequenting the rivers. The simplest way to ascertain when they are in, is by having them for breakfast from the fish market, for the natives net them as soon as they come.

Seer, and, I believe, other fish, are caught off the Indian coasts much after the manner of mackerel in England. A crude imitation of a fish is made to shape out of the white kernel of the cocoanut, and placed on a big hook, about the size of No. 10/0 Limerick, or out of white rag; and three long lines thus baited are trailed well behind the vessel as she sails, one from each arm of the yard, and one from the mast head. They are thus kept well apart out of danger of tangling. A bridle or connecting line, one from each of these lines to the deck, makes it easy to tell if there is a fish on, and to pull the line in so as to have it and the fish on deck. This style of fishing wants a good breeze. "It's the pace that kills" fish. This I give from hearsay, not personal trial, for my "soul would sicken o'er the heaving wave."

Friends going home by P. and O. tell me that they have caught fish in this way from the steamer. They did nothing in the deep sea, but in those parts of the Red Sea where they ran near land or rocky shallows they killed big fish in spite of the jeers of incredulous fellow passengers. The hook about the size of No. 10/0 Limerick was on thick wire, the body weighted with lead and covered with white rag, the wings and tail being of the same.

But splendid sport though estuary fish give you at times, I cannot

but say that, in my estimation, estuary fishing is highly unsatisfactory, for the simple reason that the fish, whose habits are governed by the tides, will not take except at the right time of the tide. If the tide would always turn conveniently, just half an hour after one got out of Cutchery, I would not complain. But as it is, the chances are just about twenty-three to one against your hitting off the right time. If your time is your own like a native fisherman's, and you do not mind a little sun, and can study the tides, and be on the spot at the right time, then you may have excellent sport. But how few Europeans there are in India who have the necessary leisure. If you have the leisure, and have come to know their times, this very periodicity of their taking is in your favour. The fish are all on the feed at the same time, and to be able to predict this beforehand, and to arrange to meet them at dinner, is a very great point indeed. What lucky and uncertain hours are those when the trout are fairly on the feed, in a taking humour at home. How one fishes on, hour after hour, in England, in spite of indifferent sport, in the expectancy that at any time in the day there may be a change, with the air full of flies, and the water covered with circles. But there is not such an amount of uncertainty about the estuary fish. He takes his meals at regular intervals, and you can tell his dinner hour as well as he can himself, for his clock is in the heavens, to wit the moon; only it is a little like Captain Cuttle's famous watch, about which he gave the advice and testimony—"Put it back half an hour every morning, and about another quarter towards the afternoon, and it's a watch that'll do you credit." Similarly your fishing clock, the moon, is irregular, and you must remember that it is not exactly 12 hours between high tide and high tide, but nearer 12 hours and 20 minutes; though even this odd 20 minutes is sometimes nearer 15, sometimes nearly 25. But you will not be far wrong if you bear in mind that each high tide, after an interval of 12 hours, is about 20 minutes later than its predecessor, and as there is one in the night as well as in the day, the day high tide recurs, more or less, about 40 minutes later than it did the day before.

On the whole, therefore, the estuary fish is no lunatic for not sitting down to table till the cloth is laid, and his dinner ready in the shape of passing shoals of little fish; and, though his punctilious punctuality, and his lunar time, may be inconvenient to me, there may be others to whom it may be no bar to the closer cultivation

of his acquaintance. To them, therefore, I introduce him with this caution about punctuality. He will not wait a minute for you.

Sea-fish are to be caught in India, as elsewhere, by bottom fishing from a boat, and for those who fancy this style of fishing, good sport may sometimes be had. With a view to tell them about it, I commenced collecting the information from the native fishermen. But it strikes me there will be very little practical use in my swelling my book with what anyone can learn just as well direct from them. Moreover, it is difficult for any book to make a man independent of local aid in sea-fishing; for there are certain places in the sea that hold certain fish, while other places hold none, and he will still want the local fishermen, who know the spots, and the guiding landmarks, to anchor him immediately over these favoured spots. Being *perforce* reliant, therefore, on the native fishermen for locality, he may as well leave them to supply bait, lines, and everything else.

Chanos salmoneus.

One sea-fish, however, I will mention briefly, because, though not to be caught with rod and line that I know of, it, in its own way, shows really exciting sport. Acclimatized to water that is very slightly brackish, it runs to 20 or 30 lbs. in a pond at Cundapur, and having the repute of having been reserved by Hyder for his own use, it has ever since been protected, and going by the name of Hyder's fish, is believed to be a freshwater fish, imported and put there by Hyder. I entertain no doubt, however, that the fry introduced themselves through a breached sluice from the adjoining estuary, and that, on the sluice being permanently closed, they gradually got acclimatized to the water growing less and less salt. Now they breed there freely. Being satisfied this must be the explanation, I showed a peon a stuffed specimen, and, impressing every detail of its form on him, and making him repeat them with his back to the fish, and selecting the month in which I thought it most probable that the *Chanos salmoneus* would enter the estuaries to spawn, and allowing time for the fry to hatch and grow before going to sea, I sent the peon to the estuary, not the pond, to catch some fry and take them to another lake, the bigger Karkal Lake. He found them as predicted,

and introduced fifty in the Karkal Lake, bringing me back specimens in spirits that I might be satisfied there had been no mistake.

The full grown fish are caught in the pond in a singular manner.

Ordinary drag nets are connected till they are together long enough to stretch right across the pond ; but not a single fish of this description is by any chance ever caught in this net ; its sole use is to frighten them. Behind this net comes a long row of small canoes tied to the drag net at short intervals, so that the hauling of the drag net shall keep them in their places close behind the drag net. On the thwarts in these canoes stand men extending a similar net in the air, at about the angle of 45° from the water, to the greatest height they can reach. Thus arranged, the line proceeds, and the fish, frightened by the drag net in the water, endeavour to leap over it, and in so doing fall into the net spread in the air. It is a sight to see a silvery salmon-like fish of 20 pounds or thereabouts face the line with a spring that clears boats and standing men and up-raised nets. Sometimes he leaps against the net close to the boatman, or even hits him and brings him down like a nine-pin, a sort of tumbling that the fishermen seem to enjoy if the fish is secured, and the eventual victory lies with them. Altogether it is a pretty and somewhat exciting scene to witness, especially if the spectator be himself under fire.

They are such magnificent fish that it is a thousand pities they cannot be taken with a rod and line. I have tried spinning and fly in vain, and only know of one having been taken with a prawn. They have a mouth like a grey mullet and might, perhaps, be similarly tempted with a rag-worm. But I should not be hopeful, for the grey mullet also are very difficult to take with a bait, as is well known.

It may be noticed in passing that the acclimatization of salt water fish to fresh water is no uncommon occurrence. There are ponds in the sand strip between the sea and river at Mangalore in which the water is fresh, and yet they contain several distinct species of purely sea fish that have lived and spawned there for more than eight years. The salmon, shad, and hilsa, for instance, change every year from sea to fresh water, and trout are found at sea. So there is nothing extraordinary in the *Chanos salmoneus* taking kindly to fresh water.

CHAPTER XIX.

FISHING ON THE HILL SANATORIA.

“ We care not who says,
And intends it dispraise,
That an angler to a fool is next neighbour ;
Let him prate ; what care we ?
We're as honest as he ;
And so let him take that for his labour.”

COTTON.

Pulney Hills.

ON the Pulney Hills in the Madura district is a sanatorium, about 6000 feet above the sea, called Kodaikànal, and in it is a lake, which was stocked by an accident. Mr. V. H. Levinge, afterwards Sir Vere, who made the lake in the site I had suggested when serving under him, had sent, at considerable expense, to the Nilagiris for English fish to stock it. They died in transit, and the coolies that carried them, not liking to confess it, caught indigenous fish at the base of the hills, and filled up their vessels with them. In the haste to put them out alive, the fraud was not detected by whoever it was that was charged on Sir V. H. Levinge's behalf to put the fish into the lake alive. The whole lake now swarms with them, and they are one of the lesser Barils (*Barilius gatensis*). This Baril is said by Dr. Day to attain “at least 6 inches” in length. They have been caught in that lake up to 7 inches, but never over $2\frac{1}{2}$ ounces in weight. Still they are pretty fly-fishing in an enjoyable climate. They rise freely, the whole lake being sometimes covered with their rises just before dark ; but also sometimes not, as, like other fish, they have their times and seasons. They do best after rain. If only you have a light rod, sufficiently stiff for quick striking such tiny weights, you may then take them by the dozen. Use a cast of three small trout flies, as small as you can have them, red and dark flies being

preferred, from 8.30 or 9 A.M. till the afternoon. In the evening just before dark, a light dun, almost white, fly is preferred, and especially near the weeds at the edge, on which it seems to be bred. You cannot do much from the shore, and should have a boat, and let it drift. There are boats belonging to the club, but they are in much request. I had a single Berthon in which I was very close down to the water, and scarcely dared sneeze. And subsequently I had a Hawker's shooting punt built for me at Madras, and took it up. The latter was just the thing. It took two or three persons, and was safe for a lady, or you could stand up and move in it. It is a sort of boat that any village carpenter can build under your supervision.

The young swim in shoals, the full grown ones singly.

As to season, I found in July that the white fly in the evening had past. In July the weather is boisterous. In August the fish began to rise again. The best time seems to be May and June, and perhaps from March.

In January, 1886, I put in 8 Carnatic Carp, and in May, 1886, 20 *Megalops cyprinoides*.

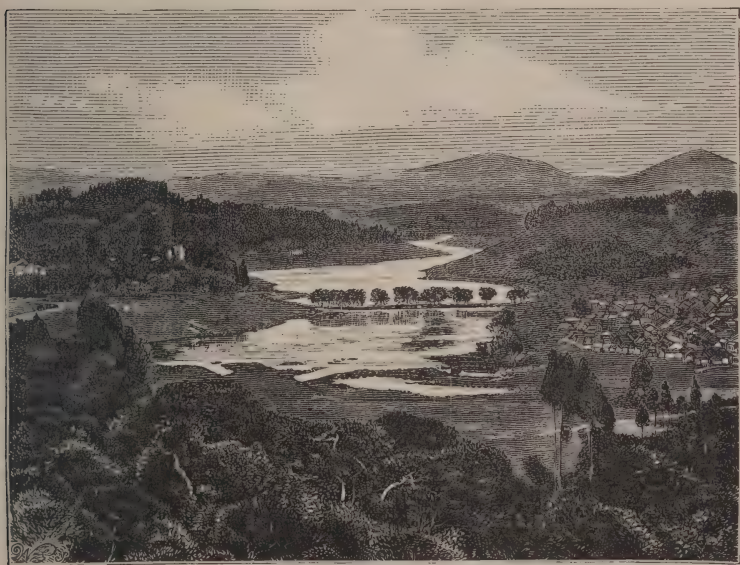
In the first week in June, 1887, I sent up the young of Mahseer, and of Carnatic Carp, and the gentleman on the spot to whom I consigned them, wrote me that he turned into the lake 19 out of the 20 Mahseer sent, alive and well, and the whole of the 60 Carnatic Carp sent, all vigorous but one, which however recovered. I have heard no news of them, though they ought to have made a show by this time, and to improve the fishing in the lake.

The Nilagiris.

From the printed Government records I note that in 1867 Dr. Day introduced into the Ootacamund Lake 16 Eels, 28 Carnatic Carp, 2 *Ophiocephalus marulius*, 10 *O. striatus*, 149 *O. gachua*, and some *Labeo*, *Dussumieri*, *Rasbora Nilgerriensis* (which is the Nilagiri indigenous minnow), *Barilius rugosus* (which is our modern friend *B. gatensis*), *Puntius gracilis* (now known as *Barbus micropogon*), *Barbus filamentosus*, and six Gourami (*Osphromenus olfax*). The last-named are said to have all died of the cold. Of the others nothing has since been heard or seen, in the Ootacamund Lake.

But as regards the Billikal Lake, there the *Barbus Carnaticus*, my

fine fly-taking friend of Chapter XI., introduced by Dr. Day, is flourishing. The then owner of it, Mr. Thomas Kaye, told me, in September, 1875, that he saw the big fish spawning on the shallows of the lake, sixteen at a time, and that they rose best to the fly in the N.E. monsoon, after and in a shower; that they took butterflies, when he threw them in, and tried at swallows. He had shot 3 lb. fish, and had seen them 4 feet long in the water. He heard them splashing from his bungalow, which is two or three hundred yards away from the lake.



THE OOTACAMUND LAKE.

He preserves well from netting, and is kindly about allowing gentlemen anglers to fish. But alas! alas! he had put in the small English carp from Ootacamund in 1874. The present owner is, I am told, V. Thiruvengadaswami Mudaliar.

I paid one day's visit to the Billikal Lake, which is about 6 miles from Ootacamund, but could catch none, because the big fish keep to the deep water, and are unapproachable without a boat. Any one essaying them there should have a basket boat brought up from the low country, or try the deep water near the embankment, bottom

fishing if he cares to. The existence there of the Carnatic Carp would seem to say that if they have borne the change of climate to that elevation, and have got acclimatized to it, they will probably bear it on to Ootacamund from thence, even if they do not bear it direct from the plains, which latter seems doubtful.

After Dr. Day came Mr. McIvor, who introduced carp and tench from England. It is a thousand pities that he did so. To go all the way to England for the common carp was truly a sad waste of most laudable enterprise and painstaking perseverance, for the carp is only an imported fish in England, and attains but a slight weight there comparatively, with a very poor flavour, and yields next to no sport; whilst India is itself the very paradise of carps of numerous sorts, from 200 lbs. downwards; carps that are much better eating, that propagate and grow more rapidly, and, moreover, afford excellent sport to the angler with fly, spoon, live bait, or bottom fishing, as may happen to be preferred by the weary health-seeker of the chief sanatorium of Southern India, Ootacamund. How large the carp grow at Ootacamund I do not know. Fishermen there have told me certainly of lines carried away by them, but then their lines were very frail ones, unsupplemented by reels, and the fish that broke them might quite as well have been the Carnatic Carp put in by Dr. Day. All the fish I have seen taken there, whether by rod or net, were miserable little things, of about 3 ozs. in weight, and I have seen two or three drags made by the authorities, on purpose to try and discover if there were any decent fish. Miserable little carp of this size swarm and choke the water in the Ootacamund and the Lovedale Lakes. At one time I thought these objectionable little carp could be eliminated by netting, so as to make room for better fish, and I made a most careful effort. But it was a complete fiasco. The lake is so full of weeds, and is of such varying depths, that a drag-net gets choked with weeds, and while the net is being hauled up full of them, the fish get under the net and escape.

The Tench, the only other fish I have *seen* in the Ootacamund Lake, were likewise brought at great pains and expense from England; a very poor fish in edibility, and most uncertain in sport.

Lochleven Trout are said to have been introduced into the Pykara stream by the late Mr. McIvor; but the evidence is open to question.

I have at Ootacamund had fish brought me alive, which, from being caught in clear water were so bright that the gentleman who brought them

was positive, very positive, that they were trout, and was very slow to believe me when I told him they were tench. It shows that you must know not only the *bona fides*, but also the scientific knowledge of your informant as to the fish reported to be introduced, especially when fry are spoken of.

Then Mr. H. P. Hodgson wrote me, in November 1882, that he and Mr. Knox and Mr. Wapshare had, in April 1877, caught below the Pykara falls and put into the river above them 123 Mahseer, the largest being nearly $\frac{1}{4}$ lb., "that they were all fresh, and in good order, and swam away gaily."

Then I personally put a fair lot of Mahseer and Carnatic Carp fry, healthy and vigorous, into the Ootacamund Lake. Unfortunately I cannot lay my hand on my note of their number, and the date, and will not speak from unassisted memory. Whether they have survived the cold and made any show at all I should much like to know.

Lastly, the Nilagiri Game Association has, I understand, laudably persevered with the hatching out of trout ova, till they have succeeded in placing out a goodly number of young trout. But I have not heard of any fishing having been yet had out of them.

The *Nilagiri News* of 28th September, 1895, reprints Appendix D. of the report for 1894-95 of Major C. J. Grant, Secretary of the Nilagiri Game Association, from which I epitomize the following notes of progress accomplished.

In 1895, Association ponds being examined, yearling trout were transferred from them, 7 to the Pykara River, 120 to the head waters of the Avelanche River, 46 to the Burnfoot lake.

In the spring of 1894 the Dodabetta reservoir was netted, and 16 seven-year-old trout from 1 $\frac{3}{4}$ to 7 lbs. were taken out, and 16 of them transferred to the Burnfoot lake, one of 2 lbs., which died, being preserved in spirits.

In the Burnfoot lake there were, at the time of the report, "about 60 fine trout."

The trout placed in the Kundah River in 1888 have bred. "In all the small pools small trout are darting about." Major Grant with a fly took two of three or four ounces, and returned them to the stream. One heavy fish broke him, and he "landed one over a pound, a female full of almost ripe ova."

The stock pond at Pykara "had 28 yearlings put into it in

February 1894. The survivors will now be $2\frac{1}{2}$ years old, and are well grown fish."

I see it reported that "mountain carp" have been taken with a fly in the Pykara stream. The scientific name is not quoted.

The Billikal Lake swarms with the little indigenous *Rasbora daniconius*. It only attains to 8 inches, but it rises *very freely indeed* to the smallest fly you can use, and may serve excellently to teach schoolboys to throw a fly, and to feed big fish. They thrive very well there in company with the Carnatic Carp, but they cannot stand the common carp, seemingly.

It is probable that Labeos will thrive at Wellington, for I sent some fry to a friend, who had a plantation at an elevation of about 4500 feet, and they lived and grew well in his pond, till a clever coolie let off all the water, and they went into the coffee pulper. But whether they will survive the greater cold of Ootacamund is a further question.

If they will live on the hills one might hope that the *Cirrhinia cirrhosa*, or White Carp, mentioned in Chapter XIII., might also thrive there.

Barils thrive well on the Pulney Hills, and ought to do equally well on the Nilagiri Hills. They have been introduced into a reservoir at Devashola, near Coonoor, by the late Mr. Money, and have bred there as I saw. To take them on to Ootacamund and to the lakes at Kodanàd, and at Wellington would be a very easy matter, a few pots and coolies, and casting nets being all that would be wanted. The Wellington water should be stocked with them, if it is only as a healthy diversion to the soldiery.

As to the fish already there, the manner of capturing them may be dismissed in very few words.

The Carnatic Carp has already been treated of in Chapter XI. and above. Of *Rasbora daniconius* enough has been said. There remain the English Carp (*Cyprinus carpio*), and Tench (*Tinca vulgaris*).

The English carp are very difficult to take with the rod. They are the fox of the waters for cunning. The plan, however, is to use fine gut and light quill float, with small shot about a foot from the hook, No. 6 or 7 Kirby size, not larger. Let the shot rest on the bottom, just tilting the float. Bait with paste, worms, or gentles, ground-baiting with the same mixed with clay or bran. Keep out of sight and quiet, and strike when the float moves off, not before. "Ephemera" says they

rarely reach 6 lbs. in rivers, and 12 lbs. in ponds in England; while other writers say they grow to twice those weights, and even more in warmer climates than England. Let us *hope*, therefore, that they really do grow to a respectable size on the Nilagiris, with their sub-tropical clime, and that we have seen only little ones because they are the most easily caught. To catch these little ones with a rod and line is a very simple matter for any boy that thinks it worth doing, but to catch the big foxy ones if there are any, wants ground-baiting and very quiet and very fine fishing. Ground-bait two or three likely holes, and keep ringing the changes on them, moving from one to another to let it quiet down after landing a fish. Rest your rod on a forked twig or otherwise so as to keep quiet.

Tench should be fished for in the same manner, or with the bait just off the ground, the bait being well-scoured brandling. Though captious feeders, they are freer biters than carp. They seldom exceed 5 lbs. or 6 lbs. in weight; 2 lbs. is a common weight. I have boyish memories of fair fun with them. They are somewhat more palatable than the common carp. A pond may be full of them, and the existence of a single one never be suspected because they are undemonstrative, and keep about the bottom. I sent some fry to the Shevaroy Hills in June, 1878, and they were safely turned into the smaller lake there. Tench bear carriage remarkably well.

Pachmarhi.

Pachmarhi in the Saugur distict. Fourteen miles off is the Dāk Bungalow at Singanama at the foot of the hill, and the river Denwa is a mile further.

"If the angler has no tents he should go to the Singanama Bungalow, and thence strike at right angles across the road for about a mile, and fish down till he comes to impassable cliffs. But if he has tents he will get better water by crossing the river by the road, which crosses it below the bluffs, and camping near the village about $2\frac{1}{2}$ or 3 miles from the Dāk Bungalow. The bank of the river is too thickly wooded for camping. Native fishermen can be got in the village to serve as guides to the pools and ways. Sambre and spotted deer are in the jungles. March is the best time for Mahseer.

"In the little stream that runs into the Pachmarhi lake excellent Chilwa fishing can be had in the rains.

"The Pachmarhi lake is said to have Mahseer in it, but I never heard," says my correspondent, "of anything being done in it."

"The way to the Pachmarhi Hill station is by dāk 30 miles from Piparia Railway Station on the Calcutta Bombay line, five hours beyond Jabalpoor from Calcutta."

Kumaon.

For the fishing in these parts the reader is best referred to "Angling in the Lakes of Kumaon," by Dr. Walker.

Poonah.

Few people know the fishing to be had at Poonah. Within 12 miles of the club, three rods took 287 lbs. of Mahseer running from 5 lbs. to 20 lbs.

A correspondent writes me that the reservoir at Karackwasla, which I have seen but not fished, is 10 miles from Poonah, that there is a very roomy and comfortable bungalow, about half-a-mile from the bund, belonging to the executive engineer, who is courteously kind about lending it when convenient. But there is also good tenting ground all round. By the courtesy of the executive engineer a boat can also be had, the borrower paying his own boatman of course. The plan recommended is to spin a *bright* 3 inch spoon deep with a 2 ounce sinker on, and 40 yards of line out of the boat. The best times are said to be from 12 to 4 in February, March, and April in bright weather, in clear water, when twelve Mahseer, averaging 10 lbs., would be a good day's sport. *Wallago attu* are also sometimes taken. In dirty water one rod, bottom fishing, got twenty or thirty fish of 1 lb. each, which *he* called Mahseer!

The Muti Mula is the river which is banded up at Poonah. It runs parallel to the G. I. P. Railway; and ten or fifteen miles from Luni station are two good Mahseer pools. Keirgaum is the station for Sardilgaum, seven miles off, where is plenty of length of Mahseer fishing with plenty of rapids, but no road, and no bungalow. Bullock carts and tents are necessary. My kindly correspondent adds, that the best time is September, October, and early November, that is, as soon as the river has cleared from the monsoon. He used a small spoon of $1\frac{1}{2}$ to 2 inches.

The Muti Mulla runs into the Bhima river, where the better water is, lower down than the junction. Sardilgaum is four miles below Pargaum, where the road from Poonah to Siroor crosses the river.

CHAPTER XX.

ROD AND TACKLE.

“Away to the brook,
All your tackle out-look,
Here’s a day that is worth a year’s wishing ;
See that all things be right,
For ’twould be a spite
To want tools when a man goes a-fishing.”

COTTON.

I BEGAN my fishing in India with rough-and-ready self-made articles ; accordingly, in my first edition, I began this Chapter with instructions how any brother fisherman in like distress might set himself up with an impromptu self-made kit. I think it was a mistake. Such a kit is sure to be a bad one, sure to lead only to terrible disasters and disappointments in any but the most skilful hands, and not unfrequently even in those. Practised hands will know how to make up makeshifts without my telling them ; others should not venture on using them. Rather let them be careful to buy the best implements to aid them in their first efforts.

Hooks.—The hooks required for Mahseer fishing will, as far as the fly fishing is concerned, be the same as for Salmon fishing, to wit, Limerick hooks, but in ordering them you will please not forget the caution given at pp. 116 and 124, and will refer your tackle-maker to my illustrations of sizes, pp. 117, 119-123.

But for spinning you will require a very different style of treble hook to the sort ordinarily used for spinning in England, you will require one made specially for Mahseer. The sizes of Mahseer trebles are the same as those of other treble hooks as given on p. 119, but Mahseer trebles are made of very much stouter wire.

A tackle-maker accustomed to supply Indian tackle will know what you mean if you call them Mahseer trebles ; but from ordinary tackle-

makers you might just as well ask for the man in the moon, and expect to get him out by the next overland parcel post. You will have to tell them that it is the treble hook called by the hook makers extra-stout. The ordinary tackle-maker, who is not educated to the supply of Indian tackle, is sure to have none of these hooks in his shop. He never deals in them, has probably never seen them, and does not know how to order them of the hook maker, even if he sees them. Tell him they are called extra-stout, as I said above, and that such hooks you must have. It will shock his sensibilities doubtless, his refined eye recoiling from anything so clumsy.

Moreover, he considers it no compliment to offer such a hook to a sportsman, as if he had not fine enough hand to kill a fish on an ordinary hook; and, indeed, it might be considered an insult, if the pull of the fish was the only thing to be afraid of. But that is not the difficulty at all, it is the very unusual power of compression exercised by the Mahseer, the violent chop with which he seizes his fish, that crushes an ordinary treble hook before you feel your fish at all, as explained at length in Chapter IV.

Tackle Shops.—My readers being mainly Indians, some of whom had come out to India without being inoculated with the fishing virus, I felt in my former editions that they, some of them, might not know where to look for tackle shops; and in the days of my first edition, few tackle-makers knew anything about Mahseer, and the special hooks needed for them. It was specially due to my readers, therefore, that I should mention shops in which these hooks were kept. I mentioned, therefore, C. Farlow, 191, Strand; and Bowness, 230, Strand, as the only ones I then knew to have any knowledge of Mahseer tackle. Since then, however, letters to the *Field* have been frequent, and tackle-makers have had their opportunities of learning, and perhaps my books have added their mite to spread the knowledge; and anglers have talked to their tackle-makers. Still they are, speaking generally, slow to turn aside from their main English trade and sacrifice time to making a speciality of Indian fishing, and in earlier days there were two schools of anglers, so that they did not know which to accept as safe exponents, the cable and barge pole school, or the more modern pliable salmon-rod school. So it has come about that though any tackle-maker that you are accustomed to deal with *ought*, from the instructions in this book, to be able to supply you correctly, I am afraid few of them

will, unless they have, or aim at having, a sufficiently large Indian connection to make it worth their while to buy this book, and keep it by them for reference, and to give it the necessary study. If they will I have done all I can, in careful particularizing of details, to help anglers to continue to deal with their old friends by helping their old friends to be able to give them satisfaction. If, therefore, your angler affections are already centred I do not want to tamper with your love. My love, I will confess it, was plighted long ago to Farlow. He first hooked me with a proper Mahseer hook, and then stole my heart with one of his rods. It is the special confidant spoken of among rods, p. 63. And up-to-date they have continued to make such a speciality of Indian fishing that—well, I am afraid to say more lest I should be charged with favouritism, while, in brief, the one thought of my book is to aid the angler, in special consideration of the grievous disappointment of having the wrong tackle sent you out in India at such an irremediable distance from your tackle shop.

I may add the following names:—Bowness, 230, Strand; G. Little and Co., 63, Haymarket, London; the Civil Service Co-operative Society of 28, Haymarket; the Army and Navy Co-operative Stores Society, 117, Victoria Street, Westminster, London, S.W.; J. Enright, Castle Connell, Ireland; Eaton and Deller, 6 and 7, Crooked Lane, London Bridge, E.C.; Hardy Brothers, Alnwick. In Madras, there is the shop of Messrs. Oakes and Co. In Bengal, I know that T. P. Luscombe of Allahabad knows how to supply the right article, and I am told that the three following men also do:—

R. B. Rodda and Co., 7 and 8, Dalhousie Square, Calcutta.

Manton and Co., 13, Old Court House Street, Calcutta.

Biswas, whose address I do not know.

Presuming presumptuously that *some few* of my readers will be converted to my ideas of tackle, and will wish their tackle shop to supply them with the things particularized, to lighten the labour of the tackle-maker, I have gathered together in one place in the index, and as far as possible in this Chapter also, all the references that will be useful to him.

Single Vent Hook.—The single vent hook for spinning should be one uneyed Mahseer treble hook, No. 5, on No. 2/0 Allcock's patent rust-proof wire gimp, the gimp being, to prevent slipping, passed between the trebles and brought up again three-quarters of

the shank of the hook before whipping. This passes into the vent with less tear than an eyed hook. About 9 inches of gimp, and a loop whipped. A Dee-side sinker $1\frac{1}{2}$ inches long, and proportionately thick, with hole sufficient to let the looped gimp pass. See pp. 68, 69, and Sinker*s* *infra*.

The same on gut, single salmon, or treble, with sinker, as in illustration on p. 68.

Richmond Spinner.—Geen's Richmond spinner, salmon size. Mount with No. 7 or 8 Mahseer hooks—8, which is the smaller, for preference—in the position shown in the illustration on p. 69. Unless specially desired on single salmon gut or treble gut, mount on No. 2/0 patent, rust-proof, wire gimp, single throughout, the hooks being not eyed, but straight and whipped on, the end hook having the gimp passed between the trebles and brought back the most part of the shank of the hook before whipping. This for Mahseer.

For Bàmìn and Freshwater Sharks always use wire gimp, and of the strength above named.

For Cock-up, see p. 250, the same wire gimp but hooks two sizes larger, and one extra hook an inch clear of tail hook in the illustration on p. 69.

The Coxon Spinner.—The Coxon Spinner, salmon size, mount as in Richmond Spinner. As shown in the illustration on p. 70, discard the second black swivel usually sold with the patent tackle.

Richmond Spinner.—Richmond spinner, trout size. For Seetul mount as ordinarily mounted for trout. For Red Perch, Grey Perch, and Batchwa, pp. 253, 222, mount on No. 4/0 wire gimp. In both cases use Mahseer hooks so that the baits can, on occasion, be used for small Mahseer.

Coxon Spinner.—Coxon spinner, trout size, the same mounting as for Richmond spinner, trout size, discarding the second black swivel.

The Archer Spinner, the Chapman Spinner, the Phantom.—The Archer spinner, the Chapman spinner, and the Phantom are mentioned and illustrated on p. 72, but are not recommended for the reasons stated. Such anglers as nevertheless desire them should have them mounted like the Richmond spinner above.

Phantoms should never be used for Bàmìn, Begti, Freshwater Shark, Batchwa, Red and Grey Perch, as they will simply tear the skin or cloth to pieces in no time.

Spoons.—Spoon baits also should be mounted with the same hooks specially for India, and should, for the reason already given (pp. 52, 60), be made of thicker metal than fishing spoons ordinarily are. I like them as thick as a good teaspoon, and gilt on one side, silvered on the other. The sizes for Mahseer spoons are from 3 inches in length in the bowl downwards to $1\frac{1}{2}$ inches, 3 and $2\frac{3}{4}$ inches being used in deep pools where the biggest fish are expected, and where the spoon is required to show further down into the depths, but $2\frac{1}{2}$ and 2 inches being preferable for general use, while some devotees of specially light tackle never use anything bigger than $1\frac{1}{2}$ inches. The two smallest sizes, 2 and $1\frac{1}{2}$ inches, spin best, I think, for being hogbacked; and in the larger sizes I prefer the bowl rounded in the shape of a dessert-spoon, rather than narrowed, as I think they get a better hold of the water, and can be spun at a lower speed of traction than the narrower ones. Two and a half inches in the bowl is just the size of a dessert-spoon, and is my general favourite.

For the reasons given below in connection with rust-eaten gut, it is desirable that the ring in the spoon to which the gut trace is attached should be of some material that does not rust like the steel split ring ordinarily used. German silver or brass, or aluminium or an alloy may be substituted with advantage.

Split Rings.—And split rings must unquestionably be abhorred. They are an abomination. No matter how stout they may be, and how strong when new, they very soon become utterly untrustworthy and fail you with your first big fish. It stands to reason that they are bound to do so from their very formation. By the law of capillary attraction the split in the ring is bound to fill with water the first time you use it, and equally bound to retain water when laid by, and you cannot get at it to wipe it off, cannot even see it; yet, if you consider, you know it is bound to be there, and bound to be rusting, and thus the little split ring has two outsides and four insides, all simultaneously exposed to continuous rusting. The inevitable result must be its being rapidly rust eaten to a rotten thread. The action of rust is quick, and Byron was correct when attributing to a single night's exposure "the rust on his mail."

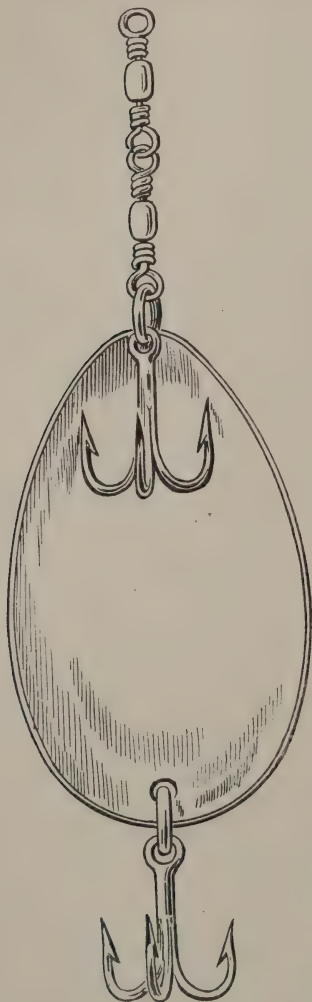
"And there lay the rider, distorted and pale,

With the dew on his brow, and the rust on his mail."

Tackle-makers are predisposed to using split rings, because they are

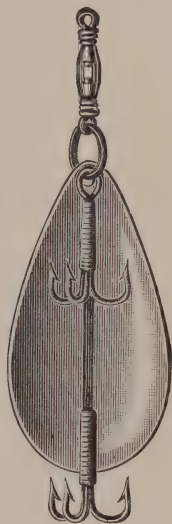
so easily put on, look so neat, and are supposed to be so convenient for the angler. I enter against split rings the most uncompromising protest. Oh, the magnificent fish they have lost me! I cannot bear the sight of them. I take them off and break them up the moment I see them.

The accompanying illustration of one of Farlow's spoons shows the way I like them mounted. The attachment is by a small soldered ring, the upper one unites spoon and swivel and treble hook, the tail one similarly unites spoon and tail hook, and in both cases the hook is well home to its work. There are only two hooks, one at the head and one at the tail, and the hook not unfrequently added at one side of the spoon is dispensed with, because two trebles are quite enough to ensure the hooking of any fish that is fool enough to take the spoon into his mouth, and more than two hooks unduly impede the spinning of the spoon. The spoon is one of an older pattern of Farlow's, and he tells me they are now made narrower; but I prefer the old shape, because I think it takes a better hold of the water, and therefore revolves with less rapidity of tension, and therefore allows of your spinning more slowly. In short, the well-rounded shape, just the form of a dessert-spoon, is my favourite. In this matter of split rings I do hope, dear reader, that you will be content to be guided by me. It is not a matter for compromise, not a matter for argument. It is *aut Cæsar aut nullus*.

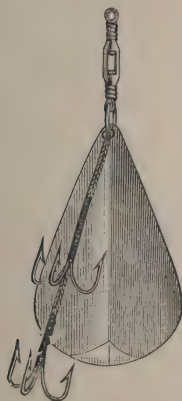


There are good fishermen who advocate flying hooks, as shown in the illustration which Farlow calls the Giri spoon. I do

not, and for this reason. The hooks being further from the spoon must necessarily have a larger circle to traverse with each revolution of the spoon, or in other words they have, with each revolution of the spoon, to be forced through three or four times as much water as the hook that is close up to the spoon. It follows that by so much they must retard the revolution of the spoon, for it is the spoon that must drive them through the water. A second reason is that flying round at such a distance from the spoon they are likely to hook some fishes foul outside the mouth, and to strike others without getting a hold in the harder outside of the head, whereas the hook that is close up to the spoon will have the fish's mouth closed tight upon it, and be much more likely to get a good hook-hold. The one hook close up to the tail of the spoon may well be mistaken, when revolving well, for the tail of the bait in the natural movement of swimming.



The accompanying figure of a hog-backed spoon is simply to illustrate the hog-back, not the mounting with flying hooks, which latter I do not advocate. In my view they should be mounted with a hook close home as in the larger spoons, only the size of the hook being accommodated to the driving power of the spoon. Say No. 7 hook and No. 5 swivel, one hook at the tail sufficing for so small a spoon.



Double Loop-knot.—Any one who baits with a fish on one treble hook, or on a single hook drawn home to the anus, should have a loop at the end of his spinning trace big enough to allow of the bait being passed through it; for the simplest way of attaching this bait to the trace is to put the large loop of the trace through the loop of the snood,* and then pass the bait through the large loop. But traces are not always made with large loops, and then the only alternative is to unhitch the collar

* The snood is the length of gut, or other material, with loop, which is attached to the hook.

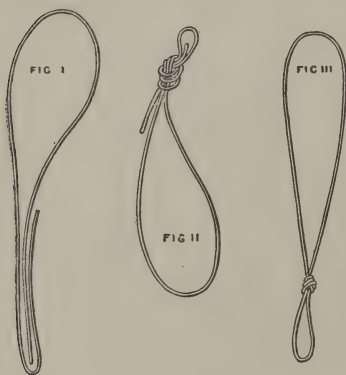
from the running line every time you fresh bait, and passing the loop of the snood through one loop of the trace, then to pass the whole trace through the loop of the snood, and hitch on to the running line again. This is a tedious operation, and time is too precious when fish are taking. I have, therefore, a little knot of my own for getting over this difficulty. It is a double loop, made of a single length of good stout salmon gut.

Commence by thoroughly well soaking your gut for a quarter of an hour or more. Then arrange it as in Figure 1, and tie a simple whip knot or common knot in it, such as is commonly tied at the end of a whip; a single knot, not a blood knot. The gut will then be disposed as shown in Figure 2. If in this stage you take the trouble to see that the guts fall evenly side by side, and not across each other, your knot will be both tighter and neater than if clumsily tied. Pull the two loops, and the two ends, till you get all quite taut; and then cut off the ends, and you will have a neat knot as in Figure 3. When neatly tied and well pulled together, in *well soaked* gut, the knot is a very neat and strong one. Of course you will arrange to have a large loop at one end, and a small at the other. A very little manipulation is sufficient for this.

Put the end of your trace through the small loop, and then pass the big loop through the trace loop, and you have then furnished your trace with a large loop of double salmon gut big enough to pass any bait, and strong enough to hold any fish; stronger, probably, than your spinning trace, which is seldom made of such strong gut.

Soaking Gut.—Thoroughly soaking your gut, before tying any knots in it, is a precaution inculcated in all books on angling; but it is very much more important to attend to this in India than it is in England, because in a tropical clime the gut is much more dry and brittle, and consequently cracks more easily. But if the gut is soaked in cold water till it is quite soft and limp, there is no fear.

If your trace, your phantom, or fly collar, has been much doubled



up in your book or case, I would suggest well wetting or straightening it in the river, before trusting it with a heavy fish. Indeed, I would suggest well wetting it whether it has been so doubled up or not, for the fish may give it an uncanny turn, and I have lost two good fish in an evening, and that on treble gut fresh from England, solely from the gut being dry and brittle and easily broken. Always soak your gut thoroughly, therefore, both before tying, and before fishing. Do not trust to your not getting a run the first half dozen casts, and your line being by that time well soaked and pliable, but soak before endangering it at all. And if you have a man with you, as elsewhere recommended, always keeping a second hook ready baited for you, take care that that snood is well soaked. Do not let him hang it out to dry in his hand or keep it in his pocket, but have him drop it into the bait-can when ready, and let it soak there till wanted. I always put my spinning trace and two flights of hooks into the bait-can before starting for the river side, so that, by the time I reach the fishing-ground, they are soft from having been well soaked, and I can begin fishing with them without delay. Another simple plan is to steep a pocket-handkerchief in water, half wring it out, and wrap your tackle in it before starting.

Rust-eaten Gut.—A constant source of disappointment in India is the swivels rusting, and eating into the gut to which they are tied, and the gut consequently giving there when you get a heavy fish. If they have been put by for a fortnight, always try them in your hand before risking them. Don't be afraid of breaking them, it is much better that you should do so yourself and re-tie, than that a fish should break it for you, and carry away your phantom, or spoon into the bargain. But well soak before testing, or you do not give the gut fair play, and it may crack from brittleness at the double, though it would be strong enough after being soaked. Test with an even strain, not a jerk. The simplest way to test fairly is to hook one end of your line on to a nail or something unyielding, and the other end on to a spring weigher, and pull in a straight line till the spring shows a tension of 3 lbs. for trout lines, or 10 lbs. for salmon or Mahseer lines, $\frac{1}{4}$ lb. for single hair lines.

Preserving Gut.—Gut is preserved by being kept from the air and light in an even temperature. I keep mine in a wash-leather bag placed in a tin box, and that in a drawer or box.

Swivels.—Why on earth swivels, which are meant to be amphibious, should ever be made of a material that will not stand the water without rusting, is a thing I never could make out. The only excuse for it is that they can be made finer of such a hard material as steel, than of anything else. This is all very well, but it is an advantage which is more than counter-balanced in India, and the sea, by their rapidly rusting. With brass, German silver, aluminium and aloids to choose from, there is no excuse for having a swivel made of material that rusts and consequently loses its strength, as well as sticks fast, declining to revolve. Silver-plated steel swivels are unsatisfactory, as the plating is thin and soon disappears. Therefore never have a steel swivel in any form.

Swivels: their Size.—It is a common thing to mount varying sizes of spoons with proportionate sizes of swivels, as if you could be so sure that a big Mahseer would not take a small spoon. Many anglers, as we have seen above, prefer always to use a small spoon for Mahseer, and one of 40 lbs. has been taken on a spoon



of $1\frac{3}{4}$ inches. In Mahseer fishing the swivel should uniformly be of a size ready for all comers. All spoons for India, from $1\frac{1}{2}$ to 3 inches, should be mounted on the same sized swivels, and the size I prefer is No. 5, and the swivel on a spoon should be a double swivel. I have lost a grand fish by the small swivel on a small spoon failing me, and I have met a sorrowing angler who said he had lost more fish by swivels breaking than in any other way. There is reason in proportioning the size of the hook to the spoon, because the spoon has to drive the hook when revolving; but there is none that I can detect in lessening the size and strength of the swivel that is offered to a Mahseer.

The sizes of swivels are as follows :—

No. 1/0 single swivel is $\frac{21}{16}$ of an inch long.					
"	1	"	"	$\frac{19}{16}$	" "
"	2	"	"	$\frac{17}{16}$	" "
"	3	"	"	$\frac{16}{16}$	" "
"	4	"	"	$\frac{15}{16}$	" "
"	5	"	"	$\frac{13}{16}$	" "
"	6	"	"	$\frac{12}{16}$	" "
"	7	"	"	$\frac{11}{16}$	" "
"	8	"	"	$\frac{10}{16}$	" "
"	9	"	"	$\frac{9}{16}$	" "
"	10	"	"	$\frac{7}{16}$	" "

The double swivels, being made of two swivels linked together, are nearly double these lengths, and are simply numbered from 1/0 to 9. The size most convenient for Mahseer is, in my opinion, No. 5.

Swivels: their Position.—Of course the swivel does most service close up to the *origo mali*, the revolving object. With a spoon you can afford to have a double swivel close up to it, and it is best there. But with a dead fish, which you often spin very slowly, it would show too much, and a single swivel is as much as I like to have there, the rest being on the spinning trace. For this reason I have discarded the second black swivel generally placed on the Coxon spinner.

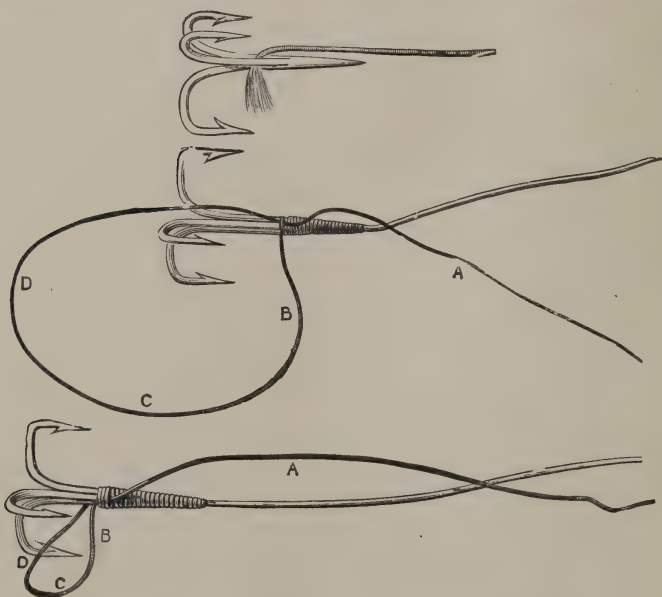
My idea is that the action of rust is more rapid in a tropical country than in England; at any rate it is much more provoking and remarked in a country where you cannot replenish for want of a tackle shop, and consequently it should be the better provided against.

Hooks Drawing.—Hooks draw dreadfully in India, from the great heat drying up and shrinking the gut, as well as slackening the silk tying, and making the wax as brittle as resin. Every fisherman in India should be ready to re-tie his hooks afresh after any length of time; and every tackle-maker should take precautions in making up Indian tackle, which he does not condescend to do with English tackle. Two hundred years ago, careful old Izaak Walton advised one to singe the end of the gut before tying a fly, and this should always be done with trout flies for Indian use. It is neglected because flies are tied in the daylight, when a candle is not at hand, and because it is considered unnecessary. But for India it is necessary,

however good the fly tyer, and should never be neglected, or at least the gut should be flattened between the teeth.

For salmon flies for Indian use, the same precaution should be taken ; or the simple one of tying a common knot in the gut. There is so much thickness of body in a salmon fly that this knot is concealed under it, and is not noticeable, as it would be in a small trout fly.

With a treble hook, the obvious plan is to double the gut, and bring it half way up the other side of the hook. It is impossible for it to slip then. All flights of spinning tackle, and all minnows mounted



with treble hooks, should invariably be tied with this care for a tropical clime. Add a touch of varnish over the tying.

Though I let the above remarks stand as they were in the second edition as regards hooks drawing, I must be allowed to go still more to the root of the matter, and say that longer experience of hooks and their habits in an Indian clime, has made me more and more enamoured of eyed hooks for the tropics. I can see no force in the objection some few raise on the supposition that the stroke is not as parallel to the point as in the whipped hook, and I know that some of the stoutest

objectors have abandoned their position. To make this matter complete I quote the following from "Tank Angling" :—

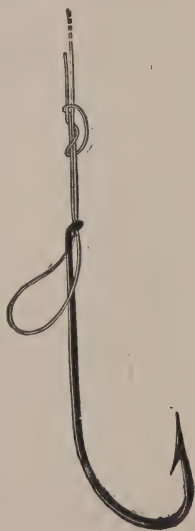
"I prefer eyed hooks whenever I can use them because hooks draw so terribly in India that you can never trust a whipped hook a second season, even though you have bound it yourself and know it is thoroughly well done. I have heard tackle shops complained of because of their cheaply tied hooks, whereas it was not the tying that was really to blame but the climate. If you are fishing with a worm you must have whipped hooks because the eye presents an obstacle that you cannot pass the worm over. But for a paste bait and for a fly the eye is no objection, while it has this great advantage, that it cannot draw, and you can and should tie the gut on fresh just before fishing, so that you may know it is not rust-eaten but is thoroughly trustworthy.

"Eyed hooks are made in different ways, with the metal eye flat with the shank, or say at right angles when the hook is lying on its side on the table, this is called needle eyed; with the eye inclined towards the barb which is called turn down; with the eye inclined away from the barb which is known as turned up. Their respective advantages are discussed at length in 'The Badminton Library.' Without bringing the controversy into these pages I will simply say that whichever hook you have you must accommodate your tying to it so as to make the point of tension on the line parallel to the point of the hook.

"If the hook is needle-eyed pass the gut through from either side of the eye and without going round the shank pass it through the same way a second time, and then tie a common single knot with the short end round the long end of the gut, and pulling it tight, work it close up to the metal eye and snip off the end.



"If the metal eye is turned down first insert the end of your gut on the upper side of the eye, that is the side furthest away from the barb, and passing it once half round the shank put it again through the eye from the lower side, so that both ends of gut come out at the upper side of the eye, then with the short end of gut tie a single knot round the long end of gut, pull tight, work up close, and snip off the end as before."



If the metal eye is turned up vary the tying so that the result shall be, as in the illustration, to keep the pull and the point of the hook parallel.

In all these three knots the snipped off end of gut will lie parallel with, and pointing in, the same direction as the long end of gut.

If the eye be too small to let the gut through twice this knot may be substituted. I see Bickerdyke calls it the Turle knot.



The jam knot is a favourite with not a few. I have never used it on a hook, always preferring the knot that follows it, so I introduce it with Bickerdyke's caution, given in "The All Round Angler" :—



"If the eye of the hook is very small and *closely fits the gut* then, and only then, can the jam knot recommended by Mr. Cholmondeley-Pennel, be safely used. It is neat, easily made, and easily unmade. To tie it hold the fly in the left hand, push the gut through the eye A in the direction of the hook bend, leave go the fly and with the end of B make a slip-knot C round the end D. Leave the slip-knot open enough to pass comfortably over the metal eye of the hook. Next take the fly in the left hand and pull the gut end D. The knot C will then slip to the eye, and, with a little assistance, will pass over it and form itself into the jam knot shown on a bare hook. It is

made in a few seconds and is really very simple, but I must repeat the warning that it is only safe when the eye fits the gut. It should only be

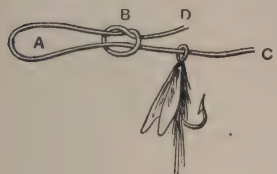
used on flies not on bare hooks. Quite one-eighth of an inch of gut end should be left with this knot."

The liability to slip, against which you are here cautioned, may be entirely obviated by the simple expedient of passing the end B, not once, but twice through the loop C, and proceeding as before. You will find it results in a double turn round the shank of the hook, and slipping is

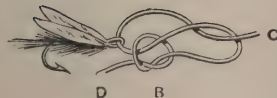


impossible. It is clear from the diagrams that you could tie either of the above knots less circuitously.

But to my thinking the following knot, taken, I am told, from the *Fishing Gazette*, is preferable. It is the one I always use for eyed trout flies in dry fly fishing. Put the gut through the eye of the hook, and run the hook up as far as you like for room for tying a common loop A. Pull the knot B tight, leaving a large loop A. Put the long end of the gut C through the loop A, and lessening the size



of the loop A, and humouring it over the metal eye of the hook, pull all tight. The end D of the gut will merge in the fly and be lost sight of. The end C is the end attached to the collar.



Sometimes from the repeated bending of the gut at every cast, one has the gut of a whipped fly so weakened close up to the fly, that it is obviously no longer trustworthy, and yet it is an honest fly otherwise, fit for more duty, and you have not another to replace it. What is to be done then? Look in the margin.

Winch.—The winch for Mahseer fishing should be capable, according to different writers, of holding 100, or 150, or 200, or 250 yards



of running line, but I have said in my last edition that I thought 120 yards to be ample, and longer experience has given me no reason for lengthening my line. There may be singular occasions when a big fish wants more than 120 yards, and you are not in a boat, so that you can follow, or are hemmed in by forest, so that you cannot move after him along the shore, and the home he is making for is far from where you hooked him; but such are very singular occasions I am satisfied. Much of your enjoyment in fishing depends on having in your hands a rod you can work with comfortable ease. The winch is not the least part of the weight, and if you enlarge your reel, and double the length and weight of your running line, fishing becomes a labour instead of a pleasure. I do not see the wisdom of making all your sport a labour for the possible chance of falling in with a fish that, in very exceptional circumstances, might want a most exceptional amount of line. I would rather fall out with such an exceptional character. I would rather break my line with one such fish in a thousand, or, perhaps it would be nearer the mark to say there is only one such fish in several thousands. I would rather deliberately break with such a fish than take the cream off all my sport with the other nine hundred and ninety-nine. I have never had to do it yet. Of course I have been broken again and again—who has not?—but it has always been in the violent first rush, never for want of running line, and I use, and commend to your use, a winch holding 120 yards. That is to say, if you are a good fisherman, and are pretty hard and quick on your fish, and especially if you have a brake-winch to give you greater command. But if you part with your line too freely you had better lengthen it to 150 yards.

Will you consider for a moment; a fish does not ordinarily set out for the next county the moment he is hooked, his object on such occasions is not foreign travel but his own village. He is frightened at the novel feeling of restraint, exerts all his strength to rush from it, and his object is to seek shelter in his home, which with the Mahseer, is ordinarily the deepest part of the very pool in or near which you have hooked him. He has left that shelter for the shallow, or the run, in search of food, and only aims at returning to it; or, perhaps, he has not left it, and it is there you hooked him, and he has no definite ideas of where to go; he just wants to make a short rush to shake off the restraint, the thing that is holding him, and then he will return to his home.

Consequently a fish does not usually take out all your line, and expend all his strength in one rush. No one has told him that your line is only so many yards in length, and that if he will only persevere, he must come to the end of it, and break it; on that subject his mind is fortunately a blank, so he ordinarily confines himself to the limits of the pool in which you have hooked him, and rushes up and down that; so that you lose and recover and re-use the same length of line many times in the course of one fight. And if by any chance he does come to the end of your line, the course is simple. I confess I once had a fish take me so very near to the end of my 120 yards of line that I kept anxiously watching the reel to see if it would hold out, and had to make up my mind what I would do if it didn't. If something must be broken, the choice is obvious, let it be the line, not the rod. The course, then, is simple; lower the top of your rod till it is in a straight line with your line, till all the strain is taken off the rod, and goes through the ring straight from the reel to the fish. There hold on, but don't despair yet. Of course you then have on the very utmost strain you can possibly put on, and it is death or victory. After running out 120 yards of well-contested line, the odds are it will be victory; you will turn him, and if he will only go in any direction but straight away from you, you are saved. I hope I am not romancing, but citing from the tables of real memory, I think I am, that either I or one of my friends have thus been victors at the last tug. At any rate, I know there's a firm conviction in my mind that the die-hards in life not unfrequently live through it. But if the worst comes to the worst and you are broken, it is pretty certain that the break will be in the snood or trace—most probably in the snood that has seen most wear. There is also another view of the position, the unpractical perhaps, but the romantic one. The existence, or idea of the existence, of a remote possibility of a tug as a last hope, remote though the bare possibility be, is just the little risk that adds spice to your sport. Sport reduced to a certainty is sport robbed of its essence. H., whom I have quoted elsewhere, was such a thorough sportsman that he would never keep a head, however fine, that was not shot with what he called "the toy," the other rifles, which were the usual weapons of ordinary mortals, were never used by him, except at elephant and bison, and, in cases of emergency, with bear, etc., but any deer shot unadvisedly with what he was pleased to term scornfully a "blunderbuss" was a head to be given

away, got out of sight as an unsportsmanlike thing to be ashamed of. The chances are your 120 yards will never be run clean out and broken, and, even if they are, it is certainly very much more enjoyable, and perhaps just a trifle more sportsmanlike to run those remote chances.

I will confess that I have myself had on as much as 250 yards of line at times when I have set my heart on killing the biggest fish that ever swam in all Hindustan, but I have never had occasion to use the extra length of line, never. The only result has been that I have simply carried about an unnecessary weight of winch and line.

The amount of line a winch will hold, depends very much on the description of line you use. The same winch will hold considerably more of the line recommended below for Mahseer fishing than it will of the india-rubber coated plaited silk, which is both more expensive and more bulky. To avoid repetition, therefore, it is perhaps better that I should give the sizes of winches when speaking of running line.

I would recommend the invariable use of a check-winch in preference to an old-fashioned simple winch. When you have just the length of cast you wish to throw, the check on the winch keeps the line at the same length : whereas, without the check, it is liable to run out a few inches each cast, and thus throw you out, and trouble you. The noise of the check gives you immediate notice of your having a fish on, and, what is of more importance than anything, it makes the reel cease to revolve directly the fish ceases to pull ; whereas, if it goes on revolving as a wheel or common winch from the impetus given to it, it will take a turn or two more after the fish has ceased running, and your running line will get wound the wrong way, and the chances are that if your fish makes another dart of it, there will be a hitch in the line, and your fish will break away. The best winches are termed revolving plate winches. In them the handle has no separate elbow round which the line is apt to get hitched, but is let into the plate which revolves. Winches are made of all sizes, increasing by a quarter of an inch in each size, from 2 inches to 5 inches in diameter, and after that the breadth is increased, and I have seen a specially made one very much bigger than 5 inches in depth. And those now made for Tarpon fishing are, roughly speaking, very roughly speaking, nearly as big as a bicycle.

Without professing to have any personal experience of Tarpon fishing I may mention that having been shown the Tarpon reel with its addition of a flap of leather, and the method of using the flap, it struck

me that it was a device much more inconvenient and laborious of application, as well as less effective in results, than my brake-winch mentioned below. This new brake may therefore be found useful to Tarpon fishers as well as to Mahseer fishermen, and may be an advantage even to salmon tamers.

I have said use a check-winch in order, more than for any other reason, that the line may not overshoot, and so getting wound the wrong way for a turn or two, become liable to a sudden hitch when called on to run out again. Such overshooting is the more likely the more rapid the run of a fish, and no fish takes out line and makes the wheel revolve faster than does a Mahseer.

Still the strength of the check should not on that account be increased beyond what is found right for a salmon. This I found from once having a check-winch in which the spring had to be replaced by a local Indian workman, a first-class workman, but not one specially educated in check-winch. The new spring which he put in for me proved too strong, and I found on trial that the result was a break of tackle at the first blow of a Mahseer, so that I dared not use that winch again till the spring was eased.

The rapidity of rush in a Mahseer is an argument that cuts two ways, and to steer between the Scylla and Charybdis of overshooting and too much winch friction, the pull on a check-winch should be adjusted with as much nicety as the pull on a trigger, adjusted exactly as for salmon, and it should be uniform. I have seen a winch in which the pull, with the winch rightly full of line, was ordinarily 4 ounces, but sometimes ran up to 9 and 10 ounces to just move the line. Such irregularity is fatal to Mahseer fishing. It is a reason for not buying cheap winches, but going to the best makers for this important part of your fishing tackle.

In respect of the pull, therefore, the check of the winch for Mahseer should not, any more than the rod, be *sui generis*, but the same as for salmon, only it is doubly necessary that it should be of the best quality, and any extra pressure that may at times be needed, should on no account be by a stiff winch or, what amounts to the same, by any one of those reels which provide for your increasing the winch friction by a side screw, because the action of those side screws cannot be sufficiently rapid to meet emergencies, and must result in giving you, for the time being, uncontrollable friction, which can only end in a break of tackle,

for the Mahseer is sudden. Beyond the ordinary check there must be no friction but what is under the most complete and prompt control, and that can only be by raising and lowering the rod top, or by the thoroughly controllable means given you below in my brake.

In all my fishing I have used the Manchester Cotton Twine Spinning Company's line No. $\frac{5}{64}$, and 120 yards of it will go comfortably into a winch of $4\frac{1}{4}$ inches in diameter, with the ordinary bar of $1\frac{5}{8}$ inch, and 150 yards will just go tightly into a winch of $4\frac{1}{2}$ inches with the same bar, but comfortably if the bar is $\frac{3}{4}$ inch. I still recommend the same line because it is so strong and so durable, being so well waterproofed. And as to 150 yards of line going tightly with the ordinary bar, it may be remembered that, when fishing, there is always the rod length, 16 feet, and something more off the reel.

The company issue with their lines the following advice for those who have time to read it and apply it. I never had.

“FISHERMEN SHOULD BE PREPARED TO RE-DRESS THEIR
OWN LINES.

“We consider one of the greatest troubles connected with a spinning line is the imperfect waterproofing or dressing. It has long since been proved that to steep a line in wax and boiled oil is only to rot it; and we find neither this nor any other dressing will resist for any length of time the friction of the rings along with the washing of the water, so that the only remedy a fisherman can have is some simple, clean, and quick way of re-dressing his own line at a moment's notice. For this purpose we make up our composition of indiarubber, guttapercha, tar, etc., into cakes, 1s. each, sufficient to dress or re-dress twenty or thirty lines, or that portion of the line most used. It is put on cold, with little or no trouble, and becomes dry and ready for use in three minutes after dressing. Of course this is only a top dressing and not expected to stand any great wear and tear, but our friends tell us it is very effective for present use, particularly for re-dressing that portion of the line so constantly passing through the rings of the rod, which can be done without removing the hooks, etc. The line will be equal to new after each dressing. Our enamel waterproof salmon and trout lines are perfect.

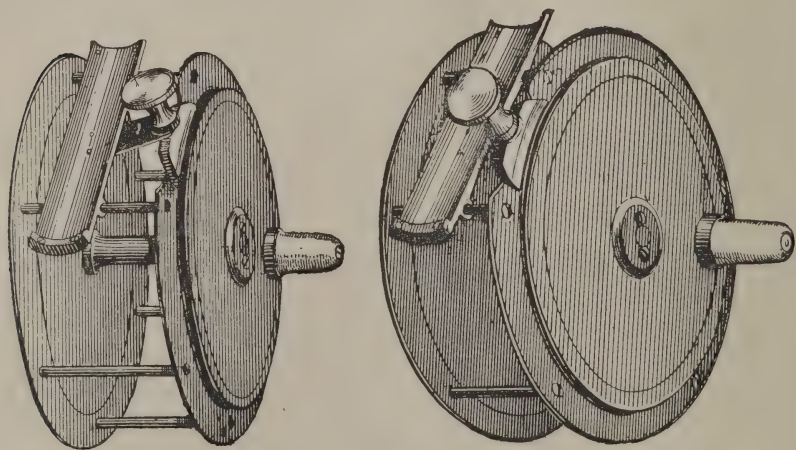
“*Directions.*—Stretch the portion of line you wish to dress—tight—from post to post, rub on the composition quickly to cause friction heat, let the composition cover the line as regular as possible and not too thickly. After you have covered the whole length, nip the line lightly with a bit of woollen cloth or wash leather, and rub quickly to cause as much friction heat as possible; you must feel the heat to your fingers through the rubber,

this will lay the composition even and smooth, and drive it to the centre of the line, and will be ready for use in five minutes after. It is best to dress only a short length of line at a time, as then you can make it tight without fear of breaking."

There is another newer line now in the market which is recommended by tackle makers, and has found its way to India, and is certainly remarkably strong, and takes less space on a winch than my old friend above mentioned, a winch of $3\frac{1}{2}$ inches in diameter holding 120 yards of this tanned plaited hemp size E. It is too light for casting a fly, and is used by salmon fishers as backing. But it is not waterproofed, and the question is how long it would keep strong without rotting. One who had tried it said he found that from being so soft it embedded itself on the winch, and so stuck in the middle of a run.

A Brake on the Winch.—What a splendid fighter is the mighty Mahseer. Though you have "foiled his wild rage" in the suddenness of his first mad burst, reducing rod friction by the use of a pliable rod that "stoops to conquer"; though you have been careful also to have as little winch friction as is safe; though you have in both these directions minimized uncontrollable friction as much as you can and dare, so as to have the better command of the friction which you can control and utilize, by raising or lowering the point of the rod so as to increase or moderate what I have called the rod friction; though you have done all this, still who has not wished that he had more power of friction at his command? Who has not felt that it is with all too light a heart that the mighty Mahseer laughs at your bending rod, that when the time has passed when you fear his suddenness, when the pace has slackened and you feel it is safe to begin to put on pressure, who has not felt that it is all too little that you have it in your power to apply, and that bend your rod as much as you dare, the fish is still going going gaily just according to his own sweet will. It is the burden of every description of Mahseer fishing that you read in the sporting papers, that the angler had no control whatever. In how many cases does he tell you that he put his hand on the line in the hope of checking the pace, but instantly had to withdraw it as the line burnt him like fire. Verily, it is exactly like fire, and he who has done it once will not do it again. With the line running at a pace that cuts a groove in the very brass ring at the rod top, won't it cut a burnt groove in your fingers if you touch it? Rather. *Experto crede.* Even a

salmon will run out at a pace that makes a salmon fisher chary of putting his hand on the line without the intervention of a thick glove. How much more a Mahseer. But you cannot wear thick gloves in tropical climes. I have gone so far as to try thin white kid gloves. But they are not a bit of use. The flying line cut them through like a knife in a trice, and was burning my hand just as if I had nothing on. In no time the gloves were cut right through in half a dozen places, and no impression whatever was being made on that Mahseer. It was only I that was impressed. It vexed me so to think that he had the game all in his own hands, and I could find no way of being even with him, till at last I have devised a brake which gives you complete control over



the friction, so that you can regulate it to a nicety and with the greatest promptitude. I had it made for me some sixteen years ago, before leaving India, and have tested it again and again on Mahseer, and found that in actual practice it works to perfection. It is no new idea with me copied from others. As long ago as my first edition of 1873, I had suggested what I then called a Mahseer drag, but which in my next edition I subsequently discarded as imperfect. But my present idea I am quite satisfied with after thorough trial, and can confidently recommend it to my brothers of the angle. Since coming home I have seen in tackle shops two other devices for compassing the same object, showing that tackle makers had accepted it as an end to be gained if possible, and if it is so with salmon much more it is with a Mahseer.

One of these tackle makers was himself a practical salmon fisher, and assured me that he found by actual experiment, that he could kill a salmon much quicker with his device than without it, and I do not doubt him for a moment. Indeed, I can see that it must be so, for he has gone half way to getting hold of the same idea as myself, but stopped short at what has been my difficulty, that of applying a practical brake. As in my own winch he brings the revolving plate to the outside edge of the winch on one side, but there he gives it a smooth surface so that he can apply his finger to it to check its speed as it revolves. He says it succeeds with a salmon. Maybe it does. But I would like to see him trying the same game on a Mahseer. He'd very soon cry "off," with his finger burnt by the much more rapidly revolving plate, or if he relieved his finger by taking it off now and again, as a man does when trying to stick to a hot plate at a shooting lunch, and as I did when trying to stick to my trial of the white kid glove, the very taking off and on must mean want of continuity of pressure with occasional jerks, after one of which he would probably find that the Mahseer had cried "off," for any abrupt stoppage to a fish going at that tremendous pace must necessarily imply more or less of a jerk, and probably prove fatal. But with my brake it is not so. There is a comfortable hollow button handy to the finger or thumb-tip through which you can apply to the revolving plate just the modicum of pressure you desire, and can apply it continuously without the slightest inconvenience, and there is a spring which makes the brake spring free the instant you release it, or relax the pressure, so that you can regulate the pressure to a nicety from an ounce pull upwards to a dead lock, and that with promptitude, according to the varying tactics of the fish throughout the conflict, and by the pressure of a single finger.

The other device I saw was a screw on the outside non-revolving plate, by giving a turn to which you could bring pressure to bear on the side of the inner revolving plate, and so set the friction to any degree you liked. But so *set* it became a permanent quantity till you unscrewed it again, a thing you could not attempt to do while in the act of playing a fish. Any such *set* friction would be utterly fatal to Mahseer fishing. It is the very thing we have been trying all along to get rid of, *uncontrollable* friction, for though, in the case of this device, it may be capable of being regulated before commencing to fish, it is under no sort of control at the second of a heavy fish striking you, and would

probably insure your being broken at the first blow, the critical instant when you want your pliable rod and your easily running winch to help you till the pace slackens, and till you dare to apply thoroughly *controllable* pressure.

If I thought of my brake sixteen years ago and thoroughly tested it on Mahseer, why, you will ask me, why didn't I tell brother fishermen of it through the medium of sporting papers. Why, because there was one thing wanting.

And I had no manufacturer in India competent to perfect my winch, and when I came to England I forgot all about it till I was asked to revise this book.

I may mention here that my manufacturer thought to improve on my pattern by fixing the brake to the side of the reel, and keeping it free by a spiral spring, but it was a dead failure, just so much force being needed to overcome the spiral spring that you could not tell how much you were using against that, and how much against the fish, and it consequently spoilt the *nicety* of regulation of pressure on the fish. He thought my exposed spring likely to be injured, but when in use on the rod it is in a very well protected position.

If you use a brake and bring to bear on the fish more pressure than you dare ask of your rod by raising the point, it follows that you must lower the point of your rod more and more in exact proportion as you increase the pressure beyond what the rod could bear if not lowered, and so you may go on lowering your point and increasing your brake pressure, without any danger to the rod, till you get rod and line both in one and the same straight line from your hand to the fish. Then you are playing the fish by hand. This is a most extreme position, but on one occasion I was compelled to adopt it and only killed my fish by being able to adopt it. I will venture to quote briefly from a description of my own written by request to the *Asian* in January, 1882, immediately after the incident, which will be better than calling on memory. "More obstacles surmounted and at length R. was in the same pool as his fish. At this moment up rushed H. with a cheery 'Well done, he's your own.' But though the scale was turning the fight was not yet won. R. got out of the boat on to a tempting little bit of sand. This meant shelving, and the fish, not liking the idea, again made down stream. This would not do at any price, for further down the stream there was a succession of rapid falls, say a

cataract, that no boat could live in, that no mortal but an ibex could run alongside of, and longer than the running line, so after all the play the whole stake had to be cast on heroic treatment at this point. H. ran below to turn the fish, but meanwhile R.'s tension had made the fish's heart fail, and he yielded, and came up stream just at a point where, if he had only persisted in going down stream, he must have broken loose, and been still exulting in the glad waters of the Bawanny. It was a victory of mind over matter. But the tension had drawn the winch out of the winch fittings, and it was loose in R.'s hands. A call to H. and it was adroitly put in position again." And so on till the fish was shelved, as game a fighter as it has ever been my good fortune, for R. was your humble servant, to battle with and vanquish, and with great advantages of water of which the fish fully availed himself.

I have quoted the battle in order to show that I am not dealing with theories, but with actuals. The tension being straight from the fish to the winch, the winch was pulled against the sliding ring which held it in position, till the ring was pulled up the rod and the winch was free and would have fallen to the sandy ground or river if it had not been caught as it fell. And who but a first class man like H., cool of head and quick of hand, would have put the winch in position again and fixed it the right way up, with no hitch on the line, the fish fighting all the while. Here was a real danger consequent on using a brake, a danger which I could not have surmounted with any one but H. to help me, still less if I had been alone.

From that day forward I always put a lashing round my rod just above the sliding ring, after it was put in position over the winch heel plate. I call the plate on which the winch stands the heel plate. But it was a troublesome expedient, and I don't think the "Wedgefast" winch fitting of J. Warner & Sons, Hewell Works, Redditch, was then invented. Fishing in tropical climes the wood of the rod is sure to shrink from the heat, and the ring fittings, which fitted to a nicety when they left the rod maker's hands, become a little loose, and with a heavy winch on a rod in constant motion all the day and sometimes held point downwards, with the weight of the winch pressing against the upper sliding ring, if you happen to be fishing from the top of high rocks in a pool well below you, the winch may well get dangerously loose in its fixings. To guard against this you will do well in any case to have some such contrivance as the "Wedgefast" which is the best device I

have seen. But if you use a brake it is a *necessity* that your winch shall be firmly and reliably fixed in position.

I have never tried the "Wedgefast," but it looks very thorough, and I see it recommended, and if you have such fittings on your rod I should think you could use my brake with safety.

It is made of oxidized brass in two sizes. No. 1, for Trout rods. No. 2, for Salmon and Pike rods.

A is a tapered socket into which one end of the winch plate slides, the other end is placed in the socket B, which is then moved into position by sliding along the plate D D, and when adjusted is fixed and held in position by a couple of turns of the screw nut C. The nut C is so made that it cannot be removed, consequently cannot be lost. To take off the winch, C is turned the reverse way, B and C slide down towards the butt, and the reel is instantaneously released.

My own device is I think much simpler, and it is attached to the winch, so that the winch is complete in itself. It is a small heel, like the heel of a boot, at one end of the heel-plate of the winch, which high heel falls into a notch cut for it in the wood of the rod, and is held down in it by the sliding ring. To cut this notch correctly put the winch in position, pushing it home under the fixed ring of the winch fittings, and then marking with a scratch the place it comes to in the rod, remove the winch, and on the butt side of the scratch cut a notch to fit the projecting heel. You can do it easily enough with a penknife, but if you love your rod as you should you will cut it neatly with a small chisel, so that the winch just fits in without any wobble, and just allows the sliding ring to pass as usual when the winch is in position.

The projecting heel is not cast as a fixed part of the winch, but can be unscrewed and reattached at either end of the heel-plate according to the fancy of the fisherman. It can be removed altogether and dispensed with, as it must be if the angler happens to have a Wedgefast fitting already on his rod.

But all this botheration comes of winch-makers making the heel

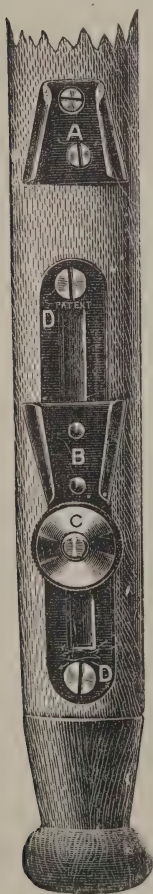


plate of their winches of varying fancy sizes, whereas if they always made this one part of the winch of one uniform size, irrespective of the size of the rest of the winch, all agreeing what that size should be, or getting sporting authorities like the *Field*, *Land and Water*, the *Asian*, the *Fishing Gazette*, to discuss and fix the size, rod-makers would then be able to sink the heel-plate so accurately that when once the sliding ring had passed over it, it could not possibly shift or wobble. I suggest $3\frac{1}{4} \times \frac{3}{4} \times \frac{1}{16}$ of an inch. It would not add half an ounce of weight to the smallest trout winch, and it would add that little at a point, close up to the hand, where it would not spoil the balance or be otherwise felt. And it would be strong enough to hold the biggest Tarpon winch going. And if indeed any additional strength is needed for these last-named winches, it can be obtained by slightly thickening the casting just at the point of junction of the longitudinal heel plate and the cross plate, without any alteration of the rest of the dimensions. If it be objected that a large heel plate to a small winch would be disproportionate and unsightly, I reply that to practical anglers that would probably be a matter secondary to the utilitarianism of uniformity. As it is now rod-makers have no fixed pattern as a guide, and one winch fitting is too large and the winch is loose, while another is too small and the winch will not enter. I speak with special reference to waters holding big fish, where it is necessary to have an amount of running line ready for all comers. I could name a gentleman who killed a 40 lb. Mahseer on a single-handed 10 foot trout rod, and I have myself killed a 22 lb. Catla hooked foul in the cheek, and therefore as good as a 44 lb. fish for fighting purposes, on a 10 foot rod that weighed only 8 ounces. Of course I had on a large winch necessarily lashed on, with plenty of running line. One has to have that in the East. One does not want to take a salmon rod when the majority of the fish expected will run from 2 to 4 lbs., and one simply must not take a large rod when quick striking is necessary, as for Labeo, or it will certainly neutralize all your chances of sport, for it would be a practical impossibility to strike quick enough with such a rod, and yet you wish to be prepared for an exceptionally good fish if he comes. It is hard on Indian anglers that we cannot get all heel plates and all winch fittings of a uniform size, so that winches may be interchangeable at will. But I suppose the practical difficulty is that English trout fishermen do not want such large heel plates, and would be prejudiced against them,

though they did cause them no practical inconvenience, and that tackle-makers would have to consult their prejudices. But such tackle-makers as lay themselves out for supplying Mahseer and other Indian tackle might surely add to their favours that of uniform heel-plates and uniform winch fittings. But maybe they have vested and other interests to the contrary, and I shall have them all down on me like a thousand of bricks, even old friends among them, and a good tackle-maker is verily a valuable friend to the angler. Do you bestow all your affection on the rod that fought that splendid hand to hand fight together with you, and saw you through to victory? Pass a little of it on to the good chap that took such pains to make it all of honest stuff without a knot or a flaw in it, and tapered and weighted to a nicety that only long practice can accomplish, and every joint of "slender frame, but firmly knit" like Malcolm Græme.

But, reverting to my brake-winch, I may mention that it has been patented, and that the manufacturers are Messrs. S. Allcock & Co., Standard Works, Redditch.

Running Line.—In the way of running line there is nothing nicer for light fly-fishing than plaited silk, coated with india-rubber, and use 30 yards. For Labeo fishing Tussa silk, as in "Tank Angling." For Mahseer, Freshwater Sharks, and such-like heavy fish, the Manchester Cotton Twine Spinning Company's line mentioned above p. 288.

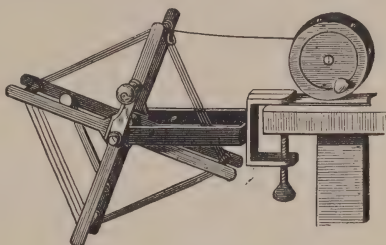
Of all your lines be careful that they do not rot from being put away wet.

Anglers are not half careful enough about this, and I have seen a worthy Major, *after losing* a fish, instead of *before killing* one, testing his remaining line, breaking off whole handfuls, with mouthfuls of expletives, the lavish expenditure of which might have been spared us if only he had been at the habitual pains, on returning from fishing, immediately to hang out his line to dry on the backs of two chairs, or by the use of one of these line driers. I quote from the price list from which I get the illustration.

"Farlow's collapsible line drier, a machine for effectually drying lines when wet, made so that the air passes freely through to every portion of the line, and so dries and preserves it. Each winder is fitted with a screw clamp, so that it may be screwed on any table. This clamp is arched so as to receive the scoop of the winch, which can be placed or removed at will,

so that the machine need not be unscrewed after once fixing. The great advantage gained in using this winder is that it entirely prevents the kinking of the line, as is usually the case in the old method of winding the line round the backs of chairs, etc."

You see he is down on me and my chairs, etc. It is a question for you to settle according to your banker's balance, and for my part I am content with my old friends, the backs of two chairs, and am not at all sure they are not the best after all. You can place them as far apart as you like, and they give plenty of separate winding space, so that line need not fall on line, and they are easily made steady by placing books, clothes or anything handy on them to weight them.



Gut.—For gut, too, I could wish that some fisherman, who has time on his hands, would give the tussa silkworm (*Antheræa Paphia*) a trial. It is more than twice the size of the ordinary silkworm; and the Atlas moth (*Attacus Atlas*) is still larger. I am inclined to think a thicker and stronger piece of gut, for Salmon and Mahseer fishing, might be got out of them. The process of manufacture is simple enough, apparently, for, if what one reads be true, you have only to take the worm, when, from a piece of silk hanging from his nose, you see he meditates spinning, and put him into a closed jar of vinegar, and let him pickle therein, for some six hours in a tropical climate, more in a colder; then break him open, and taking one of the two guts, stretch it between finger and thumb, and keep it stretched across a plank, by hitching the ends into niches, or round pins or tacks, and put it into the sun to dry.

From "Shifts and Expedients of Camp Life, Travel, and Exploration," by W. B. Lord and T. Bains, I quote the following:—

Silkworm gut can also be obtained wherever silk-spinning worms are met with. To make it a number of the caterpillars are to be collected just prior to their time of spinning. These are to be placed in a pot or other convenient vessel, containing a mixture of vinegar and water in equal quantities; they are then to be covered down and allowed to stand for about twelve hours. A worm may then be taken out, opened, and tested as to its fitness for drawing. If, in pulling the yellowish green coils which

will be found within it to their full extent and extreme, they break from softness of texture, the worm must be allowed to remain in the vessel some time longer, the temperature having much to do with the condition of the pickled insects. When the coils are found to be tough, and stand stretching fully out, one end of the strand must be placed in a slit made in the end of a thin board or sheet of bark prepared for the purpose. This strand is now to be drawn and stretched to the other end of the board, in which corresponding slits have been made, when the extremity of the gut is secured in one of them. When all the worms have been thus treated the stretching board is to be placed in the sun in order that the gut may dry, which it usually does in about twelve hours. It will now be found that a considerable quantity of yellow substance will remain adhering to the gut. This must be removed, and in order to do so dissolve a common piece of soap, about the size of a musket-ball, in a gallon of rain-water. Place this, with the gut in it, in a boiler and boil it for ten minutes, when the gut must be turned out in a cloth to drain. Before cooling each strand must be lightly and smartly drawn through a pledget of cotton held between the finger and thumb, which will at once strip off the yellow coating; but great care must be taken not to press the softened strand hard enough to make it flat or curled. As fast as the strands are run through the cotton they must be replaced on the board and again dried in the sun, after which they can be selected as to size, quality, length, etc., and packed up in hanks by twisting cotton or any other kind of thread round them."

The advantages which I suppose these worms to possess over the ordinary silkworm are, that they are larger, and will probably yield much larger guts; also that they are indigenous to the country, and do not require to be fed on mulberry leaves, or other choice food, but on the wild tree leaves on which they are found.

More or less objection is taken by silk-spinners to both these worms, on the ground that the silk is difficult to reel, by reason of its being stuck together by such a strong gummy substance, that diluted sulphuric acid is recommended for mixing with water in which the cocoon of the tussa silkworm is boiled; and of the *Attacus Atlas* it is said "the silk is difficult to reel, though it yields partially if boiled in vinegar." But this very objection becomes a decided recommendation from a fisherman's point of view, for the stronger the gluten the less likely the gut is to fray in water, as ordinary silkworm gut will when worn.

To aid recognition by those who do not know the tussa silk-moth, I quote an extract from a description by Dr. Shortt, F.L.S., F.Z.S., etc. of Madras:—

"The male and female moths differ in size, the male measuring from

the tip of one wing to the other between 4 and 5 inches, whilst the female measures from 6 to 7 inches in expanse of wing; both are of a uniform yellowish brown, having a couple of lunated transparent talc-like spots on each wing, and it is chiefly in the form of these spots that they differ from other moths of the same kind."

An exhaustive history of these and other silkworms, their food and culture, will be found in an official report on "Silk in India," by J. Geoghegan, Under-Secretary to the Government in India, Department of Agriculture, Revenue, and Commerce, and published at the Office of the Superintendent of Government Printing, Calcutta.

Rod.—For fly-fishing for the smaller fish a light single-handed rod of 10 or 9½ feet in length is the luxury. You should have an extra top in case of accidents, and let it be stiff, because you can strike so much more quickly with a stiff rod than with a pliable one. For Mahseer I lay great stress, as you will see, on the rod being pliable, because there you need to be aided in meeting the sudden plunge of a heavy fish, but with small fish, such as chilwas and barils and the minor carps, the object of first importance is quick striking, and this can be better done with a stiff than with a pliant rod. Consequently you will find that all the best rod-makers make their light trout rods much stiffer than they did some ten or twenty years ago. I remember fishing for minor barils with one whom I had but a short time before taught the very rudiments of fly-fishing. The little fish of 3 ozs. and under were rising freely at every cast, and he was hooking them much faster than I was. He thought he had suddenly developed into the better fisherman. But the secret was that he had a modern, I an old-fashioned trout rod of the days of my boyhood, his being both much lighter and also very much stiffer than mine, and I was thereby placed at such a disadvantage that I couldn't hold a candle to him. Of course I saw how it was in a moment, but he didn't, and it didn't seem the civil thing to undeceive him. But I may tell *you*, dear reader, so as to aid you in the choice of a rod. For small fish lightness and stiffness of rod both accelerate the stroke. The reasons for its doing so are explained in "Tank Angling," page 20, where rapidity of stroke is the *sole* thing aimed at, and no fly throwing has to be considered.

For Mahseer, however, you want a double-handed salmon rod, and 16 feet is quite long enough. I have had 17 feet and 19 feet, and prefer 16 feet.

The Irish rods, with splices instead of ferrules, play the best from end to end, if you will be troubled with putting them together, and if you will also do so thoroughly tightly, so that they are like one piece; but most fishermen will not be so bothered in spite of their proverbial patience, nor would I advise them to it.

On no account buy a rod with a screw inside the ferrule; the screw always wears, and then the rings do not come in line, and the joints are always stiff and unbending.

An ordinary ferruled rod is the general favourite, and though glue dissolves in the damp, and wood shrinks in the drought, of a climate which runs to extremes, still, if the ferrules are all riveted inside and outside, as a good rod should be, they will stand. Mine have had a pretty lively experience, in as much as 135 inches of rainfall in two months, and have consequently had a constant glue-melting atmosphere, besides a very bone-drying one at other times.

But be very careful how you choose your rod, for it is to be your best friend in Mahseer fishing. On no account buy one of those stiff, almost pike, rods ordinarily advertised as Mahseer rods. I know there are those who commend them, and that it is on that account that they are so made and so styled. I suppose, also, that the commenders thereof are held to be law-givers in the matter of rods, or the trade would not follow them, or perhaps I might say *were* held to be law-givers, for I think their day is over, and the old idea of a barge pole for Mahseer fishing is now sufficiently exploded for me to spare my readers four pages of opposing views, and simply refer them to pp. 63, 65 *supra*.

In brief, then, let the Mahseer rod be an ordinary pliable light salmon fly rod of 16 feet, not necessarily top-heavy, as a Castle Connell rod inclines to be for the purpose of aiding the cast, but essentially pliable. On no account have a short stiff spinning top with it, as that would only serve to lure you to your ruin. Have an extra fly top if you like, lest one get strained or broken.

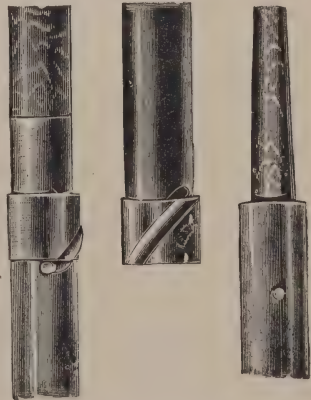
If you are a light spare man lighten your rod accordingly, and on no account fish with a rod beyond your strength. Some good fishermen, but they have to be very good, use a 14 feet rod, and no doubt those who can use such a rod magnify their sport by minimizing their weapons. But it is not the best implement, the best is 16 feet, and most men can use it comfortably, but a specially weak man may reduce it

6 inches or a foot. But then he would probably have to have it specially built for him.

A button at the bottom of a Mahseer rod is a very great relief from the pain which a sharp end to a rod gives when pressed continuously against your side in playing a big fish. In a cold climate like England an india-rubber knob is commended as a luxury, but I don't know that I would advise it for India, as I doubt if it would stand the climate. Still if it fails it will screw out and you can revert to your wooden button, on which many a good man in India has killed many times his own weight. It will screw into the same place, and as the forms of both are much alike one illustration will equally serve to explain the technical term button.



Ferrules.—The old ferrules are out of date. Though the eye might not detect it till educated to do so, they were cone-shaped and tapered too rapidly, and consequently did not bite all the way down, but at only a small point. Metal turning by engine is now reduced to such exactness that an error of a thousandth part of an inch is considered a misfit, and ferrules are now made to fit so exactly that even the air cannot escape, and you hear it expand on being released by the withdrawal of the joint. From the noise thus made these are called in the trade suction joints, because a name is wanted, though there is and can be no suction. It is that the ferrules are more nearly parallel and fit closely all the way down. They never slip loose and need no binding together as the old ferrules did.



The lock-fast joint is another expedient which answers admirably. One of these two, the former for preference, you ought to have on any new rod, for tying the joints together was a trouble, and if neglected a worn joint often got loose in the course of the day, and then the rod would not cast well, and there was danger of a

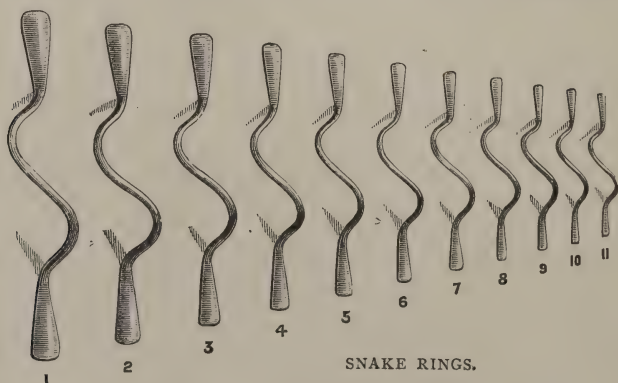
break of the tongue of the ferrule, and sometimes the whole joint came out.

Rod Top Rings.—The rapid rushes of many a Mahseer will end in cutting a groove in the ordinary eye of twisted brass wire at the point of the rod, and the line afterwards hitches in the groove. My remedy was to remove the eye, and whip on a fresh one, having several ready. It was easily done, and the eye easily made. But the eye or top ring with a phosphor bronze revolving centre is much better, the revolving centre preventing the cut of the line coming always in one place, for it is easily turned with the finger, and the phosphor bronze being a much harder material than brass. The electro is actual size, you can get them many sizes bigger, but I prefer the smallest that is strong enough for hard work.



The same tops are made with a steel revolving centre. But steel is a metal that is subject to rust, and from constant contact with a wet line, the inducements to rust are constant and obvious. And ever so little rust means a rough surface which must fray your line.

Rod Rings.—I never could see the sense of varying the size of the rings on the rod. If those on the top joint are large enough to let the line pass, they will be large enough to do the same on the bottom joint, and what more is wanted? And standing rings when



thus reduced to a uniform small size, are not in the way, and are easier to thread than the old-fashioned flap rings with keepers.

They are also better for bearing the strain and the friction when the rod is bending in the playing of a heavy fish. If the inside of the eye of the ring be one-eighth of an inch clear it is surely large enough.

The snake rings of phosphor bronze, not steel, have a fascination for many, and tackle-makers commend them. To me they look as if the line was likely to hitch if, reversing your rod, you play your fish with the rings uppermost. And so I never would risk trying them, and consequently am not competent to condemn them.

I have preferred this pattern, originally my own tinkering out of brass wire, then made for me for a song by a native jeweller, now made by Farlow of a harder material, phosphor bronze. They are the lightest and cheapest I know, and whichever way you turn your rod the friction of the line comes on the metal of the ring, not on the whipping. Their lightness is a special recommendation for Labeo rods.



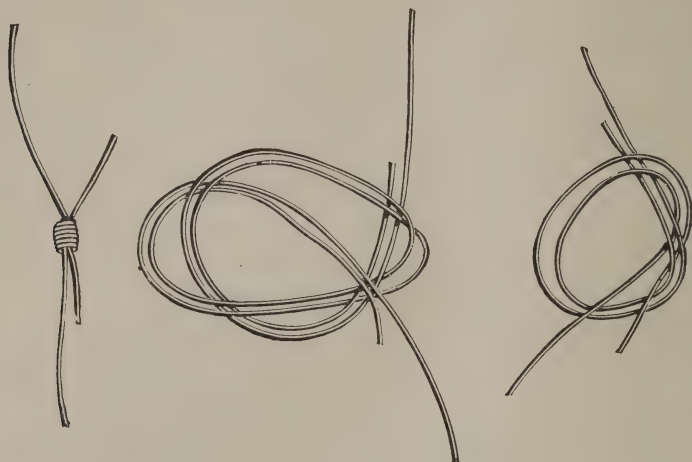
Farlow makes nearly the same with a revolving centre, the same size, as shown in the rod top ring. They are very perfect. You might have them on your Mahseer rod, while you have my lighter smaller ones on your Labeo and Trout rods.

Similar rings are made with a steel revolving centre, lacquered. I would dissuade you from them because of the danger of rust and fraying of the line, as mentioned in connection with steel centres to eyes at the rod point.

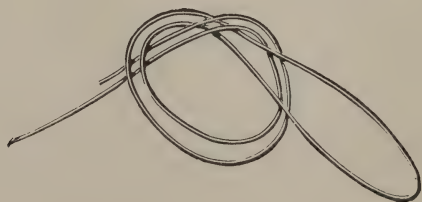
Sinkers.—I think the best form is that used in the Dee spinning tackle, page 69, and made larger for Mahseer. Farlow has had special moulds made at my request for sinkers of $1\frac{1}{4}$ and $1\frac{1}{2}$ inch in length, with holes large enough to allow the loop of wire gimp to pass. You will see them illustrated at page 68 *supra*.

Whipping.—It is the fashion with some tackle-makers to bind the gut loops in the snood and collar with silk, whereas the fastening would be both tighter and less visible, besides lasting longer, if in single gut it were simply knotted after well soaking the gut. In India particularly, where whip fastenings are so liable to come undone, from the extreme dryness of the air shrinking the gut, spoiling the wax, and slackening the silk binding, it would be more satisfactory to have plain gut knots. Knots also are not liable to fray as silk is from wear. With treble gut collars, of course, the best fastening is the whipping with gut, which is exceedingly neat and durable.

For the angler who likes to make his own collars, or has to repair breakages, the accompanying drawing of a gut knot in three stages may



be useful. And the single knot for making a loop at either end of the collar is simple.



Flights of Hooks.—For the single vent hook for Mahseer please see page 66, and for the special sinker to be attached pages 68, 69.

For Richmond and Coxon Spinners, salmon size for Mahseer, pages 69, 70, and for Freshwater sharks, Marral and Bà-mìn the same on wire, pp. 208, 242.

For Begtie, page 250.

For Richmond and Coxon Spinners trout size on gut for Seetul, page 218, on thinner wire gimp for Freshwater Sharks, Marral, Batchwa, Red and Grey Perch and others, pp. 207, 228, 222, 253.

For live bait, pages 138, 141.

For prawn bait, page 254.

Flies.—For Mahseer, pages 124, 125. For Carnatic Carp, page 156.

For smaller fish, pages 173, 177, 179, 180, 181.

For Barilius bola, page 189.

For Batchwa, pages 222, 223.

For Megalops, pages 255, 256.

Preserving Tackle.—In consequence of hooks rusting so quickly in India, and the difficulty of replenishing your stock, the prudent man will perhaps take extra precautions which I confess I never had the time for. A thin coating of shellac varnish put over your hooks, and heads of flies, will exclude the air, and thus preserve them from rust. It is all very well for tackle shops, and for men in England amusing their leisure, but no official in India has time for it.

My flies I always kept in a tin box of sandalwood sawdust. The oil in the sawdust kept the hooks from rusting; the smell preserved the feathers from being moth-eaten.

A writer in the *Field* says that if boxes are used a small crystal of naphthaline, not much larger than a pea, in each compartment, will keep moth away from flies for a whole year.

Shellac varnish is easily made. Lac is procurable in any native bazaar in India. Put it in a glass-stoppered bottle with wood naphtha. Time does the rest. Made thick, it is liquid glue; thin, it is varnish. Spirits of wine will not do as a solvent.

Wax.—Wax you must have. Cobbler's wax you can get from any bootmaker, but now-a-days you must be careful to call it shoemaker's wax, or you may be told he has not got any. If you are living in the wilds beyond the pale of shoemaking, and are compelled to make your cobbler's wax yourself, the following recipe may be useful:—

“Take 4 ounces of resin, grind it to a fine powder between two stones, $\frac{1}{4}$ oz. of beeswax chopped up small, and 2 ozs. of common pitch; mix these substances with the resin, and place the whole in a small native chatty pot. Then put the pot in a bed of hot wood ashes, and with a long, flat-pointed stick work and stir the mass about until thoroughly melted; then add $\frac{3}{4}$ oz. of good clean fat, and keep the whole in solution for about a quarter of an hour or twenty minutes. Grease the bottom of a calabash or bowl, half fill

it with cold water ; take your pot off the fire with a twisted stick, and pour the molten material into the water. When cold enough to handle, grease your hands and work the wax about, pull it out into long strips, double these back on themselves, and so proceed until all the materials are well amalgamated ; then work it out into a long stick or rod, take a greased knife and divide it up into pieces, large enough to make convenient balls for use. These are best kept floating in water until wanted.”—“Shifts and Expedients of Camp Life, Travel, and Exploration,” by W. B. Lord, Royal Artillery, and T. Bains, F.R.G.S. : Horace Cox, 346, Strand.

For white fly-making wax here is a recipe :—

“Two ounces of best yellow resin, one drachm of beeswax ; put them into a pipkin over a slow fire till completely melted. Then add a quarter of an ounce of spermaceti ; and let the whole simmer, constantly stirring it for a quarter of an hour longer. Pour the melted mass into a basin of clear cold water. It will instantly become thick. In this state, and while yet warm, work it by pulling it through the fingers till cold. This last operation is necessary to make the wax tough, and to give it that silvery hue it has when made in perfection.”—“The Angler and his Friend,” by John Davy, M.D., F.R.S.

Francis Francis substitutes tallow, I see, for spermaceti.

Lead Wire.—For weighting lines for float fishing, split shot are ordinarily used, but a much handier thing is the soft-drawn lead wire of the Manchester Cotton Twine Spinning Company. It is so easily put on, and can without the least difficulty be exactly accommodated to the finest float, whereas it is troublesome sometimes to exactly hit it off with shot. It is cheap enough, 15 yards for 1s.

Copper Wire.—The same company supply also fine soft copper wire, as fine as fly-tyers’ silk, in knots of 40 yards for 1s. It is nice for whipping, and fishermen should not be without it.

Whipping Cord.—While you are sending to this company for running line, etc., you will do well to get their “waterproof cable whipping cord, 100 yards for 1s.” It is excellent for repairs of breakages. Their silk for whipping hooks, flies, etc., is also good. They supply also all sorts of excellent lines for sea-fishing. But, as I said before, their transactions are all for prepaid cash, a little difficulty which your tackle-maker will arrange for you.

Bait Kettle.—A common earthen pot makes a very good bait-can. Arrange a string by which to carry it by one hand, tie a cloth over the

mouth to prevent the bait jumping out, and punch small holes round the neck of it with a nail ; in doing so use caution to prevent breakage. When fishing, keep it well under water in the river, having first poured out all the old water. Your bait will keep alive the longer for thus having fresh water. Do not bore holes lower than the neck, or you will have no water in your earthen pot, when carrying it from place to place. This is as good a bait kettle as you can desire, and is to be had for between one and three pies, say, at the very outside, for the vast sum of two farthings. If your bait are *Ophiocephalus gachua*, less care is necessary about the changing of the water, but more that they are not suffocated by being cut off from the air ; for them the earthen pot must be left out of water, not immersed, and the cloth kept carefully over the mouth, for they jump out more than any fish.

Still the luxurious and affluent angler may like to know what are the appliances sold for this purpose, and as it is not so easy for him to get an illustrated price list out in India, or to walk into a tackle-shop and have a look round, I must e'en be his *fidus Achates*, and spare the space for these illustrations, given me for his benefit, as you will have seen in the preface. And for his better information I may as well copy as it stands Farlow's descriptions and sizes and prices, so that he may be able to judge for himself of the several advantages and cost of the different sorts and sizes of bait cans.

ZINC BAIT CANS.



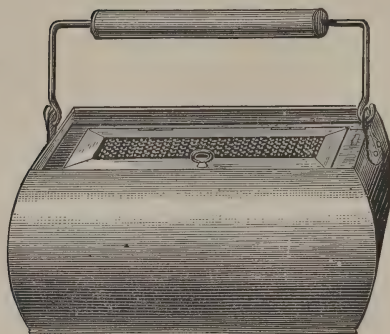
Outer Can.



Inner Can.

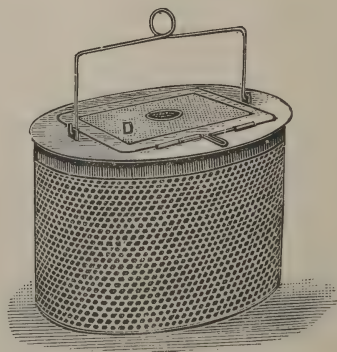
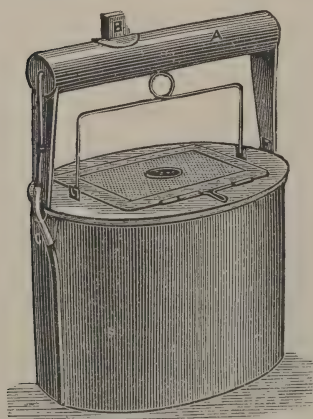
(Perforated.)

		Long.		Wide.		Deep.		Each.
0	...	9 $\frac{1}{4}$ inches	...	5 $\frac{1}{2}$ inches	...	5 $\frac{1}{2}$ inches	...	5s.
1	...	10 $\frac{1}{4}$ "	...	7 "	...	7 "	...	7s.
2	...	12 $\frac{1}{4}$ "	...	8 "	...	8 $\frac{1}{4}$ "	...	8s. 6d.
3	...	13 "	...	9 "	...	9 $\frac{1}{2}$ "	...	10s. 6d.



	Long.		Wide.		Deep.		Each.
1	6 $\frac{3}{4}$ inches	...	4 $\frac{1}{4}$ inches	...	4 inches	...	1s. 6d.
2	8 $\frac{3}{4}$ "	...	5 "	...	4 $\frac{1}{2}$ "	...	2s.
3	9 $\frac{7}{8}$ "	...	5 $\frac{3}{4}$ "	...	5 $\frac{1}{4}$ "	...	3s.
4	11 $\frac{1}{4}$ "	...	6 $\frac{1}{2}$ "	...	5 $\frac{3}{4}$ "	...	4s.
5	13 $\frac{3}{4}$ "	...	6 $\frac{3}{4}$ "	...	6 $\frac{3}{4}$ "	...	5s.
6	15 "	...	9 $\frac{3}{8}$ "	...	9 $\frac{3}{8}$ "	...	8s.

The engravings represent the two parts of the can separated, and the position of the bellows and air-conducting tube. When grasping the handle of the can in the act of carrying, the handle, so to speak, of



FIELD'S PATENT AERATING BAIT CAN.

the bellows (B) can be easily and naturally worked by the thumb ; the air pumped from the handle is conveyed down a small tube (C) into the bottom of the can, so that the aeration of the whole of the water must

be thoroughly effected. The inner or perforated can has a handle, and by attaching a piece of cord can be placed in the water, consequently allowing the water to flow through it, thus keeping the baits beautifully fresh and active; it can, when a bait is required, be lifted out, the water subsides, and a selection can be made.

Price 10s. 6d., 12s. 6d., and 14s. 6d. each; Postage 1s. extra.

Spring Balances.—Spring balances are made of many sizes, and three qualities, and priced accordingly, as the following extract will show. At page 38 *supra*, I have recommended your having two of best quality brass weighing up to 30 lbs. each.

NICKEL-PLATED.

5-8 lbs.	15 lbs.	20 lbs.	25 lbs.	30 lbs.	40 lbs.	50 lbs.	60 lbs.
9s.	13s.	17s.	20s.	21s.	27s. 6d.	30s.	37s. 6d.

BRASS (Best Quality).

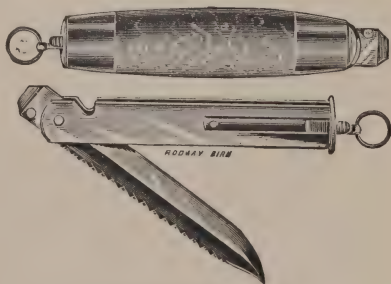
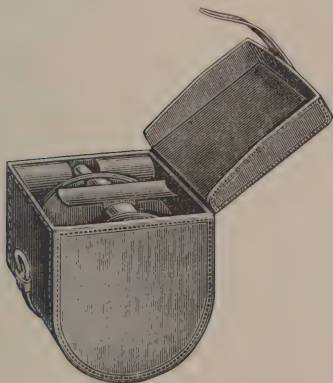
5-8 lbs.	15 lbs.	20 lbs.	25 lbs.	30 lbs.	40 lbs.	50 lbs.	60 lbs.
5s.	8s.	11s.	13s.	14s.	20s.	25s.	28s.

For trout fishing, weighing up to 3 lbs. showing ozs., nickel-plated, 13s. each; plain, 8s. 6d. each.

BRASS (Second Quality).

7 lbs.	12 lbs.	16 lbs.	20 lbs.	30 lbs.	40 lbs.	50 lbs.	60 lbs.
2s. 6d.	3s.	3s. 6d.	4s.	4s. 6d.	5s.	7s. 6d.	8s. 6d.

Winch Case.—Here is another luxury I never indulged in, but I won't say it won't be useful if you do.



NORWEGIAN KNIFE.

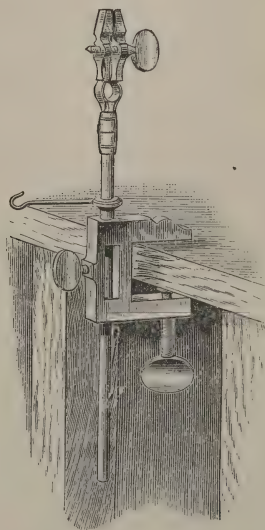
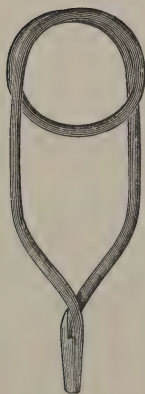
Fishing Knife.—A good knife always comes in handy, and you

should never start for a day's work without one in your pocket. It is often needed for cutting out a hook. There are any number of elaborate designs containing every requisite under the sun, for which I hesitate to spare the space. My own faithful companion was a simple two-blader, with a corkscrew at back, with the handle made of a metal that didn't mind an occasional ducking, and attached by a string from a loop, like a boatswain's, to prevent his taking a dive of his own without my company.

The Norwegian knife is also an inexpensive friend with a saw to it.

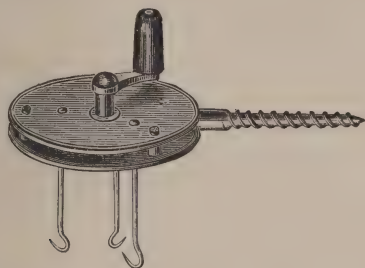


Fly Scissors.—These should find a place in your fly book, and frequently come in handy.

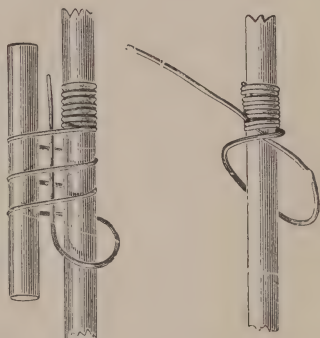


Hackle Holder and Table Vice.—If you tie your own flies or tackle, you will find these convenient appliances.

Gut Twister.—I have always thought I wanted a gut twister, but I have very seldom required it.



Splicing.—If you break your top joint, you ought to be able to mend it yourself. Cut a neat splice with care, having seen that the slope of each side corresponds to the other, and that when put together they make a joint that fits evenly all along, and is neither bigger nor smaller than the parts of the rod close up to the joint, unite them with common glue, and get someone else to hold them in position while you tie them tight together with three double hitches of strong twine, one in the centre, and one near each end, and then whip it roughly with the same stout twine, so that the joints fit as closely as possible at every point. Put away for twenty-four hours to thoroughly harden. Then having freshly waxed with cobbler's wax some good stout silk—red is the colour usually preferred—clear away with a penknife a little of the rough whipping at the end at which you propose to commence whipping closely with silk, leaving the rest of the rough whipping to hold the joint firm till you get close enough to it to need to remove more, and so proceeding, finish off with the whipmaker's knot, as shown in the diagram—that is three turns kept loose by a pen or pencil being placed under so that the end of the silk can be passed under, then whip the loose whipping fairly tight, and pull the end till the slack all comes through. The same knot may be used in binding bare hooks, or whipping on rod rings.



Otter.—An artificial otter is not unfrequently used in lakes in Ireland ; and as some may like to use it in India, where the competition amongst anglers is not so great as to bring down on you from your neighbours the charge of poaching, I will supply instructions for making one.

I should add that it has this to be said for it in India, and that it is on this account solely that I mention it, or ever deigned to give it a thought, that here we do not know definitely by the experience of ten thousand anglers exactly how to fish. We are all more or less explorers, trying to find what fish there are in India that will take a bait, which will take a minnow, which a fly, and what fly is preferred. For this purpose the otter covers a larger field of experiment, it searches more water, and it allows of one man trying twenty or thirty flies at one time, instead of three at the most.

Take a light plank, $\frac{3}{4}$ inch or an inch in thickness, of 2 feet in length, by 7 or 8 inches in depth, and lead it so that the water-line shall be about 1 inch from the top. Insert a brass ring, or light staple, exactly half-way up in the centre of the stern of the plank, and two more like staples, two-thirds forward, one in the top edge of the plank, and one in the bottom edge, or exactly opposite each other. To each of these staples tie a cord about 2 feet long, and bring the ends together, so that when suspended the plank shall hang quite even cross-wise, but lengthwise shall have the stern slightly lowered, say 6 or 7 inches, for it is on the principle of the inclined plane that the otter acts. Then to the point where the three cords are knotted together tie a long cord, push the otter out from the shore, nose foremost, in the direction you mean to walk along, keeping the line taut, and try it. If the otter acts properly, it should keep parallel with you, keeping the line taut all the while. But if the top and bottom cords are not of exactly equal length, it will not sit true, and consequently will not have so good a hold of the water. If the cord from the stern is too short, the otter will have a tendency to yield to your tension and to come in to you, and will not keep away enough to keep the line taut. In such case let out the stern cord a little, and try again. If you lengthen the stern cord too much, the angle of the plank will be too great, and the otter will pull away from you too much, and in consequence will not keep pace with you, but will lag behind. You must therefore humour this stern cord till you have got it to work nicely ; and, that attained,

knot all three cords together in one simple knot, such as is usually tied at the end of the lash of a whip by non-whipmakers, so that they may not slip; and leave a loop over to which to attach your towing line with the hooks on it. This adjusting of the stern line of the otter is rather a nice operation, but, once done, it lasts for ever.

The towing line can be used with flies or spinning bait, just as you like. To lead the otter so as to sink it to the desired depth, drive in small screws all along the bottom edge of the plank, one every inch, say, so as to stand out a little in continuation of the plank and give the lead something to hold by. Then paste brown paper on both sides of the plank, near the bottom edge, and let it dry and stiffen. Stand the plank bottom edge upwards and pour molten lead into the trough thus made all round the line of jutting-out screw-heads along the bottom edge of the plank. You will need at least half an inch of lead, and it is better to pour too much than too little, for it is easy to plane off what is extra with a common jack plane, whereas it is not so easy to add lead with a second molting, for it does not make a good joint with the previous cold lead; there is always a crack left with a want of firm hold. Remove the paper wall, and trying the otter in the water, plane down the lead till the plank sits evenly in the water, with just about an inch or an inch and a half above the water level.

The usual way is to attach the tow line to the loop, where the three otter plank cords are knotted together, which three cords we will call the bridle; but another plan, as suggested by Mr. Wilcocks, in his "*Sea Fisherman*," is to tie the tow line primarily to the staple at the stern of the otter plank and connect it with the bridle by a piece of fine twine. When a fish is hooked you will then, by the act of striking the fish, break the thin connecting twine, and the strain coming on the stern of the otter, you will easily haul it on shore end-on; whereas it is not so easy when the otter remains broadside-on, and more or less interfering with the playing of your fish. The better way when it remains broadside-on is to stand still, or retrace your steps, so as to get the otter in, and keep on pulling in the line till the otter describes a semicircle and runs in to shore.

But against Mr. Wilcocks' plan it is argued, again, that the otter does not interfere with the playing of your fish, but more or less aids it by yielding to violent tugs, and coming up and going on again as you proceed, and thus helping you in the drowning of your fish. Moreover,

it is urged that you do not want to be compelled to pull in your otter with every individual fish, because it saves a great deal of trouble to keep moving on, the fish is soon killed, and trails quietly, and it is time enough to pull in when you have five or six fish on.

Still it may be that Mr. Wilcocks' plan is preferable, with heavy sea fish, of 10, 20, or 30 lbs. each, and it is about sea-fishing that he writes.

The tow line should be prepared as follows:—Get a number of small brass rings just big enough to run easily on the tow line, but so small that a knot tied in the tow line will not pass through them. Put twenty or thirty of these rings on the tow line, each 6 or 8 feet apart, say 8 for preference, with a common whip knot on each side of it, so as to prevent its shifting. The ring is to prevent the drop lines from twisting round the tow line. To these rings attach your drop lines, which must not be more than $2\frac{1}{2}$ feet to the hook; so that by no means can they reach each other, and entangle in the water, even when the drops are only 6 feet apart.

But I think 8 feet is a fairer distance at which to place the drops, so as to be secure against entanglements, even in the event of the tow line sagging, or a heavy fish behaving badly. These drop lines will be the better, in the case of spinning fish, for having one or two swivels each. I would recommend the drop lines having two brass swivels each, and being not more than 2 feet long, with a large loop at the end. To this loop your spinning bait snood can then be easily attached, and re-attached, when fresh baiting. But the whole drop should be removable, because you want no swivels with flies, and will be the better for having nothing but gut, $2\frac{1}{2}$ to 3 feet of gut to your fly.

The otter can be made larger if you like, maintaining the same proportions, which are that it should be about three times as long as it is deep, and always sunk with lead so that the water-line shall be within an inch of the top. I have one, 4 feet long, which nearly pulls me into the sea. It was made for fishing broad estuaries for heavy sea-fish, and for fishing the seashore outside the waves on calm days; but I have had very little opportunity for trying it. Still I have seen what it can do in the lakes in Ireland, and have seen also that Indian sea-fish, the Seer, for instance, will take a small fish readily enough. I wonder if a porpoise would take it. If he did you would have caught a Tartar.

The otter can be used whenever you have a good extent of un-

interrupted shore or beach to walk along without interposing trees, etc. ; and it can also be used from the stern of a rowing boat, for as you move on rowing it will move parallel with you ; and if you are very avaricious, you can have one on each side of a boat. But remember, that weeds have a strong affinity for tow lines and drop flies, especially when there is a fish on.

I will confess, however, that I have not had the patience to experiment with the otter half as much as I purposed to do. It went against my grain, and in golden moments of leisure I found myself fingering my old friends the rods in preference.

The simpler way, however, is to have two small otters as above ; if you like to use them singly you can do so, one on each side of a boat. If you wish to have one of double the power, so as to take out a very long line from the shore, drive a small staple into one of the otters, midway in the plank perpendicularly, and a little forward of midway longitudinally. The staple may be easily made of a piece of strong brass wire, with the eye protruding on the off-side and the ends on the near-side doubled down. To this eye attach the bridle of the second otter. The two otters will be thus coupled, and will walk side by side, together bringing just twice the tension to bear on the tow line that either does singly. If you always worked your otter one way, say from right to left, nothing more would be wanted ; but as you sometimes require to work from left to right, drive in another staple close alongside of the first one, and, as before, in the centre of the perpendicular of the plank, but with the eye protruding on the opposite side. You have thus an eye on either side to which to attach your off otter. To reverse an otter, turn the nose in the direction in which you wish it to run, and bring the bridle between you and the plank. To hitch on and unhitch the second otter, it is convenient to have a thing like a "safety pin," only shorter, and made much stronger of thick brass wire. A pair of pincers will twist one up in a minute.

How to Order.—Friends wishing to set themselves up in tackle have come to me to advise them what to order, and to help them how to describe what they want, so that the English tackle-maker may not misunderstand them, and have asked me to give them some idea also of prices ; I wish to sit down similarly by the side of my reader, and help him to indite his order. This may seem a work of supererogation to some, but to others I am convinced from experience that it will be

a practical assistance, because they have not a tackle-shop into which they can walk, and point out this thing and that thing, without knowing its name, and take the shopkeeper's advice about other things.

For such, then, I add a liberal outfit, the prices being taken from a good tackle-shop's list. Inferior articles can, of course, be got at cheaper rates, but it is most unsatisfactory to buy such. Those who think my order too big can easily omit what they do not want. It is better that they should omit than that I should.

Such of the tackle required for Mahseer as will come in equally useful for other fishing is not here repeated under the names of other fish, only what is wanted extra for them specially being thus entered separately.

FOR MAHSEER.

	£	s.	d.
1 Pliable, but not top-heavy, rather light, salmon rod (not the stiff trolling rod that has been commonly called a Mahseer rod), four joint, greenheart, suction joints, winch fittings, with button-ended butt, partition bag, and extra fly top, 16 ft. Split cane, I am told, will not stand the climate, but I have not tried	3	10	0
1 Superior bronzed revolving plate check-winch of 4 or 4½ inches in diameter, according as you wish to have 120 or 150 yards of line, the cross bar being 1½ inches, my brake-winch for preference. Ebonite will not stand the climate 4-in. diam.	2	0	0
... .. 4½-in. „	2	10	0
120 or 150 Yards, according to choice, of Manchester Cotton Twine Spinning Company's No. 8½, 16 plait Egyptian enamel waterproof running line, at about 2s. a score yards 150 yards	0	15	0
1 Salmon fly collar, half treble, half single, extra stout, salmon gut	0	5	0
3 Single, extra stout, salmon gut fly collars, at 5s. each	0	15	0
2 Stout spoons of 3 inches, silvered and gilt, mounted without split rings, but with wire or solid soldered rings, with one No. 5 Mahseer treble hook at head, and one like hook at tail, and none at the side, on a double No. 5 swivel, as given at page 278, on No. 2/0 Allcock's patent rust proof wire gimp	0	8	0
2 Like spoons 2¾ inches	0	8	0
4 „ „ 2½ „	0	14	0
4 Stout spoons, 2 inches, hog backed, with one No. 7 Mahseer treble at tail, none at head, single swivel No. 5	0	10	0
4 Ditto 1½ inches	0	8	0
4 Geen's Richmond Spinners, salmon size, on Allcock's patent rust proof wire gimp No. 2/0, with two No. 8 Mahseer treble hooks, disposed as in the plate on page 69	0	10	0
1 Coxon Spinner, salmon size, similarly mounted	0	2	0
3 Spinning traces of the same wire gimp, with double swivels No. 5	0	3	0

	<i>L</i>	s.	<i>d.</i>
12 Yards of the same No. 2/o wire gimp	0	4	0
I Dozen Mahseer treble brazed hooks, not eyed No. 5	0	2	6
2 " " " " eyed, No. 5	0	5	0
2 " " " " " , No. 7	0	5	0
2 " " " " not eyed, No. 7	0	5	0
2 " " " " eyed, No. 8... ..	0	5	0
2 " " " " " , No. 12	0	5	0
I " double swivels, brass, No. 5	0	4	0
I " single " " " " " " " " " " " "	0	2	0
6 Dee sinkers 1½ inches long, for putting in mouth of bait	0	2	0
6 " " I¼ " " " " " " " " " " " "	0	2	0
3 Jardine live bait tackle mounted on the same No. 2/o wire gimp, with No. 8 Mahseer hooks	0	2	0
I Spring balance weighing to 30 lbs., or two if you wish to combine them for weighing fish over 30 lbs. at, nickel-plated, each	I	I	0
" " " " " " " " " " " " " " " "	0	I4	0
" " second " " " " " " " " " " " "	0	4	6
I Bait kettle if you like, p. 307 supra.			
I Table vice	0	IO	0
I Winch case	0	12	0
I Hackle holder... ..	0	I	0
I Dozen rod rings, upright, phosphor bronze, revolving centre, inside diameter of aperture ¾ inch, for repairs	0	IO	0
I Dozen rod rings without revolving centre, inside diameter of aperture ⅞ inch for repairs of Labeo rods	0	3	0
I Line drier	0	15	0
I Knife, from 5s. to 28s.			
I Rod box	I	15	0
I Tackle box	0	IO	6
I Hank of stout salmon gut	I	0	0
3 Baiting needles	0	0	6
3 Blackamoor flies on No. 2/o eyed Limerick hooks, my sizes	0	3	0
6 " " No. 2 " " " " " " " " " " " "	0	6	0
I Fly book, 7 × 4 inches	0	12	0
I Pair fly scissors	0	2	6
I Fine file	0	0	6
I Skein or reel of silk for tying flies	0	0	6
2 Skeins of silk, stouter, for rod repairs	0	I	0
roo Yards Manchester Cotton Twine Spinning Company's waterproof cable whipping cord	0	I	6
I Dozen bare Limerick hooks, No. 2/o, eyed	0	I	6
2 " " " " No. 2, " " " " " " " " " " " "	0	2	6
I " , No. 6/o, eyed	0	2	0
I " , No. 4/o " " " " " " " " " " " "	0	2	0
I Gut twister	0	8	6
An extra rod,winch, and running line as above in case of breakages in a remote camp			

FOR CARNATIC CARP, Extra.

	£	s.	d.
2 Dozen Blackamoor flies on No. 5 Limerick hook, my size, on eyed hooks	0	12	0
1 Dozen Blackamoor flies on No. 10 Kirby, on stout single salmon gut or on eyed hook for preference	0	6	0
1 Landing net, 14 inches diameter, folding ring and handle	0	10	0
3 Dozen No. 5 eyed Limerick bare hooks	0	3	9
1 „ No. 10 Kirby, eyed	0	0	6
2 Hog-back fly spoons	0	2	0
1 Two-handed trout rod, 14 feet, 4 joints, greenheart, suction joints, winch fittings, with extra fly top, and partition bag, the winch fittings to be adapted to the Mahseer winch	2	15	0

FOR FRESHWATER SHARKS, &c. Extra.

3 Richmond Spinners, trout size, armed with No. 12 Mahseer treble hooks, uneyed, on patent rust proof wire gimp No. 4/0	0	6	0
1 Coxon Spinner similarly mounted	0	2	0
1 Disgorger	0	0	6
2 Rod rests	0	10	0
1 Gaff hook, steel	0	5	0
1 „ „ plated if preferred	0	7	6
1 Jardine Gag	0	7	6

FOR SMALL FLY TAKERS.

1 Single-handed trout rod, not top-heavy or limp, but stiff, 9 or 10 feet, three joint, greenheart, suction joints, winch fittings, with screw spike, partition bag, extra fly top, and short spinning top	2	5	6
1 Superior, bronze, revolving plate, check-winch $2\frac{1}{2}$ inches	1	1	0
30 Yards waterproof plaited silk taper trout running line	0	7	6
1 Dozen black flies on No. 000 sneck-bend hooks	0	2	0
2 Dozen light duns of various shades on No. 000 sneck-bend hooks	0	4	0
$\frac{1}{2}$ Dozen black flies on No. 6 sneck-bend hooks	0	1	6
3 Fine drawn trout fly collars or casting lines	0	3	0
1 Medium trout fly collar	0	1	0
1 Hank trout gut, medium	0	3	0
$\frac{1}{2}$ Dozen bare No. 000 sneck-bend hooks, eyed	0	1	6

FOR LABEOS, Extra.

1 Labeo rod, as described in 'Tank Angling,' pp. 16 to 20, and 69, 70	1	15	0
1 Check-winch $2\frac{3}{4}$ or 3 inches in diameter	1	0	0
6 Detective floats, 'Tank Angling,' p. 23	0	3	0

	£	s.	d.
150 Yards light tussa silk running line, 'Tank Angling,' p. 21			
2 Dozen bare eyed Limerick hooks, No. 1, now No. 0	0	2	6
3 Dozen lengths salmon gut	0	12	0
1 Hank soft lead wire	0	1	0
1 Plummet	0	0	2
1 Dozen No. 2/0 Rohu hooks... ..	0	1	0

FOR SEETUL.

3 Richmond Spinners, trout size, on salmon gut, No. 12 Mahseer treble hooks	0	6	0
---	---	---	---

FOR BEGTI.

2 Richmond Spinners, salmon size, on wire gimp as for Mahseer, with an extra hook, an inch clear beyond tail hook for Mahseer ..	0	5	0
--	---	---	---

FOR BATCHWA AND SEA PERCHES.

2 Richmond Spinners, trout size, on patent wire gimp No. 4/0, No. 12 Mahseer treble hooks	0	4	0
---	---	---	---

FOR BATCHWA.

3 Black flies No. 4, eyed Limerick hook	0	1	6
3 Orange flies No. 4, eyed Limerick	0	1	6
3 „ „ No. 6 „	0	1	0
3 Black „ „ No. 6 „	0	1	0
3 Yards No. 5/0 patent wire gimp	0	1	0

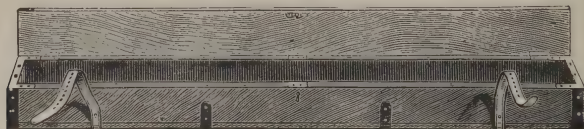
FOR SEA PERCHES.

2 Prawn tackles on No. 4/0 wire gimp, hooks No. 10 Mahseer trebles ..	0	2	0
1 $\frac{3}{4}$ inch spoon	0	1	6
Total ..	40	18	5

Add a percentage for freight, insurance, and loss by exchange.

Rod Box.—Order the whole to be sent out in one stoutly-made hinged and locked box with your name painted on it. You will find

such a box very convenient for keeping your tackle in, and for trans-



porting it on your trips to the fishing grounds, occasions on which you will sometimes find a good lock an advantage.

Tackle Box.—I have found a tackle box a most convenient thing, especially for a busy man. When you start for a fishing trip nothing has to be hurriedly looked up at the last moment, nothing is liable to be left behind, as everything is in its place. Mine has for unit a tin box, of which the outside measurements are $9 \times 4\frac{1}{2} \times 2$ inches deep. This makes two boxes of $9 \times 4\frac{1}{2} \times 1$ inch, with a common bottom at one inch deep, and a hinged lid each. These boxes are again subdivided according to convenience, one division crosswise making a convenient size for collars and traces, smaller divisions into six and eight being suitable for hooks, swivels, and spoons. Each tin box has a folding tongue of wire by which it is taken in and out of a wooden box, which just holds six of them standing endwise, with their label of contents upwards. One tin is always marked "Sick and Wounded," into which goes promptly any tackle that is the worse for a fight and needs repair. Then you know that all your other tackle is in good fighting condition, and you know where to put your hand at once on what needs repair, and time and disappointment are saved both ways, when time is precious. A certain Commander-in-Chief, examining my tackle, was much tickled with this scrupulous care for the "sick and wounded." The wooden box that holds the tin boxes is made of $\frac{5}{8}$ inch teak planking, strong enough to stand any amount of knocking about, and to make a good dry seat when bottom fishing for Labeo. This box is never risked in a basket boat—it is too precious. But any one of the tins, containing a day's requisites, goes into a pocket when off *terra firma*. A good lock and key complete the box. I have two such boxes.

In India, one commonly makes up a party for distant fishing and shooting, and several rods are apt to get thrown together in a corner of the tent, and when coming from the same makers, and ordered after

one pattern, as they would be if two or three chums ordered from this book, it will be found that they are very much alike, and that it is no easy job to tell the several joints one from another, when starting, perhaps somewhat hurriedly, for the day. It will save you some trouble, and cost nothing comparatively, to have your initials cut small, at twopence a letter, on every joint of every rod, and on every winch you possess, and marked pretty large on the rod partition bag. Thus you will always be able to pick out your own property at a glance, and will not get in exchange a carelessly put away rotten line, or your friend's top with a bad warp in it from ill-usage; or, still worse, give him yours, or exchange tops, that when you are a mile apart, and putting them up at the river's side, are found not to fit into the second joint!

For those who wish me to indicate a minimum economical kit, I will extract from the larger order the following:—

FOR MAHSEER.

	£	s.	d.
1 Salmon rod, as in the larger order	3	10	0
1 4-inch winch, with my brake	2	0	0
120 Yards running line... ..	0	12	0
2 Spinning traces of patent rust proof wire gimp No. 2/o	0	2	0
1 Treble gut fly collar	0	3	0
2 Spoons of 2½ inches	0	7	0
2 Richmond Spinners, as in larger order	0	5	0
1 Dozen No. 1 treble hooks uneyed	0	2	6
3 Yards patent wire gimp No. 2/o	0	1	0
2 Snoods of my one treble vent hook spinning tackle on wire gimp, No. 2/o	0	0	8
1 Baiting needle... ..	0	0	2
2 Dee sinkers 1½ inches	0	0	8
3 Blackamoor flies on No. 2	0	3	0
1 Skein or reel of silk for tying flies	0	0	6
2 Ditto, stouter, for rod repairs	0	1	0

FOR CARNATIC CARP.

6 Blackamoor flies on No. 5 Limerick, eyed hooks, my sizes	0	3	0
3 „ „ No. 10 Kirby, as in larger order	0	1	6

FOR FRESHWATER SHARKS, &c.

Wire gimp as in the larger order	0	4	0
1 Richmond Spinner, trout size, as in larger order	0	2	0

THE ROD IN INDIA.

Y

FOR SMALL FLY TAKERS.

	£	s.	d.
1 Fly rod	2	5	6
1 2½-inch winch... ..	1	1	0
30 Yards running line	0	7	6
½ Dozen black flies on No. 000 snecks	0	1	0
½ Dozen dun „ „ „	0	1	0
2 Ordinary fly collars	0	2	0

FOR LABEOS.

1 Labeo rod	1	15	0
1 Check-winch 3 inches diameter	1	0	0
1 Dozen No 1. eyed Limerick hooks, now No. 0	0	1	3
1 Hank soft drawn lead wire	0	1	0
3 Detective floats	0	1	6
150 Yards fine tussa silk line			
1 Dozen lengths salmon gut	0	4	0
1 Plummet	0	0	2

14 18 11

Adding a percentage, as above.

Of this, any of the parts for different fish that are not desired can be omitted. But this is a highly limited order.

CHAPTER XXI.

FISHING GEAR AND OTHER SMALL BEER.

“The apparel oft proclaims the man.”—SHAKESPEARE.

JUST a few short words on the clothes most convenient to wear when fishing in India will add to the comfort of those that will be troubled to read them.

As you have already seen, you will have to do a good deal of wading if you are at all keen about sport. But on no account get waterproof wading stockings. First-rate things though they are in England, they are not at all wanted in India. I doubt if they would keep good in India. I am quite sure they would be unbearably hot in that climate, and, much though I have waded, I never felt the want of any such protection in India; for the water is not perishingly cold, as in England, but comfortably tepid, so that, if you make a rule never to be tempted to go in over the fork, you will not be the worse for it. If you walk in deeper, and stand in the water up to your stomach and vitals, I will not be responsible for congestion of the liver, dysentery, and all the rest of it.

Remembering that you will be often in water up to the fork, shorten your coat tails accordingly; and have your pockets high and dry, or you will find, after landing a fish you have been very intent on, and waded in to get at, that your fly-book, or some other valuable, has been thoroughly soaked the while.

The stony bottom, with its rounded boulders, is often very slippery, and, as you see the native naked foot slips less than a shoe, you may be tempted to wear thin shoes, so as to give you the better foot-hold. I tried thin racket shoes, but was very soon convinced of my mistake. Under water you cannot always see where you put your foot, and you are watching your fly, etc., and have to feel the bottom with the foot,

and you are sometimes in a little hurry, for life is not long enough for dawdling, and then you bring your unprotected foot against a rock, and generally right on the top of your pet corn. But what is worst of all is when you get your unprotected foot jammed by the weight of your body between two rocks. That will decide you in favour of thick boots.

Have good heavy boots, then, with the sole a trifle broader than the foot, and of a good thickness. I mean the boots commonly made with a sort of open verandah all round the foot. Ankle-boots are a protection to the ankle, saving it from being bruised and also from being turned and sprained; laced boots best protect the ankle. In short "the Alpine boot" is about the most comfortable you can have.

Walking amongst the rocks in, and on the edge of, a river is a galloping consumption of boots. Nails are an antidote. But too many nails make the sole slippery, make it almost as bad as one without any at all. Have the sole studded all over with large nails an inch apart. These will improve your foothold.

After being so soaked your boots will get uncomfortably hard if not greased. If you dry them first and then grease them they will shrink, but if you grease them when wet and put them in the sun the grease will take the place of the moisture, and the boots will remain comfortably soft and unshrunk. The cheaper, less refined vaseline, as used by veterinary surgeons and commonly called Vets' Vaseline, is the best thing you can use. It never moulds, smells or becomes rancid. Keep an old blacking brush for spreading it, and working it into the seams. Use it freely, as it is cheap, and preserves the leather. In its tin it is very portable.

Braces are a mistake, for when exerting the arms by making a long stretch in clambering round a rock, for instance, they give, or, more likely, a button flies. The trousers should be supported from the waist.

Good thick socks are not only a wise precaution for health's sake, but a comfortable protection more or less against the sand, which, however, *will* get in when stirred up from the bottom in wading, and which proves a nuisance when walking home again.

The forest-clad riversides often swarm with leeches, which bite better than the fish. Tuck the trouser into the sock, and tie round tightly with a string in lieu of leech gaiters.

I have been told that the after itching, which is the worst part of their bites, may be prevented by rubbing gunpowder into the bite immediately on your return home, and that no mark is left by the gunpowder, but I am satisfied the amount of after itching is entirely dependent on your then state of health, and that nothing you can do affects the matter.

It is better to get them to let go their hold themselves, than to risk the leaving of a broken tooth in your leg by pulling them off. If you should happen to be so far behind the age as to have a flask of powder in your pocket, a little of that sprinkled on the leech will effect the desired release. They cannot stand the saltpetre in it any more than common salt. Tobacco juice or a hot cheroot end will get rid of them.

But all this is a somewhat luxurious method of being leech-bitten. The usual recipe is grin and bear it, but *never* scratch the annoyingly itching bites, or you will rue it in their long continuance.

As to the material of your clothes, you need not "fash" yourself, though woollen, of course, is most comfortable. But as to the colour you should be careful. White turbans, white coats and white trousers, are all to be eschewed; "for the apparel oft proclaims the man" in more senses than Shakespeare meant. Common shikar clothes are the things.

Wading not only enables you to get at many a pretty bit of water otherwise unapproachable, but when up to the fork in water you are lower down, and consequently less likely to be seen by the fish, than when standing out in fine relief on the bank, with the sky for a background.

I do not think fish see any great distance laterally in the water, and I am inclined to think this is why you find preying, and preyed on, fish living so near each other in the same stream, without clashing half as much as one would expect them to do. It is also a reason in my mind for spinning in the right places, close to where you conclude preying fish to be lying. The case is very different with the fly, for that shows against the light; and the nearer it is to the surface, the further it is seen by a fish on the bottom; for conceiving a fly and the angle of radiation, or vision in the water, are represented by an isosceles triangle, of which the apex is the fly, the two legs the angle of vision, and the base the bottom of the river, it follows that an extension of the

two legs extends the base, or, in other words, that the fly which is further off, from being at the surface, is visible over a greater breadth of bottom, than the fly which, from being sunk, is nearer the bottom.

An objection to wading is said to be that you are now and then swallowed by a crocodile. But I have not experienced that sensation yet, and though there are crocodiles enough, I do not think there is really anything to be feared from them. I have again and again waded in just where I have seen a crocodile disappear, or have noticed fresh footmarks and basking places. Mr. Sanderson, in his "Thirteen Years among the Wild Beasts of India," writes the following:—

"The few crocodiles that are found in the Mysore rivers very rarely attack people; and fishermen—who pay no heed to them—have told me that, if they come upon a crocodile whilst following their employment, it will skulk at the bottom, and not move though handled, apparently believing it escapes observation. Crocodiles are, like all wild creatures, very timid where not encouraged, as is sometimes done by superstitious natives. Incredible though it may seem to readers with no knowledge of the saurians but that derived from stories of their boldness elsewhere, I may instance having seen several 'bestas' (the professional boatmen, divers, and fishermen of Mysore) dive time after time into water 12 feet deep, and bring to the surface by the tail a crocodile 7 feet long which I had wounded. The creature was not in any way crippled, but seemed overcome with fear. It offered no resistance till dragged near a rock, where I stood with a rope, when it would turn and snap at the man pulling it, always sinking, however, the moment this demonstration made him let go its tail. Different divers went down successively, one at a time, and brought it to the surface. I at last killed it with a charge of shot."

Still it was reported that they killed women and children groping for shellfish in the Malabar district, and it was on that ground that the Government of Madras sanctioned a reward for killing them in the Malabar district, at so much a yard, and the result was that seven miles of them were killed in a very short time, when the reward was stopped.

Seven miles of crocodile! It reminds one of Sheridan's sympathising remark on the giraffe with a cold in the Zoo: "Fancy having three yards of sore throat."

An acquaintance of mine was stripping for a swim in a tempting looking pool, his native attendant silently watching him all unconcerned till he eventually dropped the casual remark: "There are about thirty of them in that pool." "Thirty what?" asked the white man.

"Crocodiles," was the still unconcerned reply. The undressing for a swim in that pool was promptly discontinued. This was in the Madras Presidency. One reads of crocodiles feasting on human bodies in the Ganges, and one naturally concludes that they may equally take the living, and I have myself been warned not to wade in certain parts in Northern India, though in the Madras Presidency I have always treated the animal as an inoffensive coward, and waded at pleasure though to the caimans or alligators of America I should have paid more respect. The Canara crocodile is *Crocodilus palustris*; the Malabar, Mysore, and Madras one, *C. porosus*.

Trousers hang about the legs, and are not only cold and clammy when walking, but are also heavy with water. A more comfortable costume is knee breeches and worsted stockings.

CHAPTER XXII.

THE TAME OTTER.

“Oh! the gallant fisher’s life,
It is the best of any;
’Tis full of pleasure, void of strife,
And ’tis beloved by many.”

J. CHALKHILL.

ONE can imagine the above song being jovially rolled out by a rollicking otter, after a good day’s hunting, just as well as by Isaak Walton’s old friend John Chalkhill; for the otter is as fond of hunting in the water as any hound is on land. He evidently hunts from the love of it, and not for the pot, for he eats a mere snack out of each fish he catches, leaves it, and hunts for another. Any one who has been much on the banks of rivers where otters abound, will have seen many a fine fish little more than tasted and left on the bank. Having watched five full-sized wild otters hunting together, calling cheerily to each other in the water, gambolling on the sand together for a minute or so, and then in again at a call, and going on calling cheerily again, shall I say laughing, chaffing, and singing “jolly dogs are we,” as they went hunting down the river together, I could not doubt they were thoroughly enjoying themselves, and following a propensity, a sport, rather than working for their living.

The otter picks up and follows the scent of a fish under water, just as a dog does that of game on land. You may think a fresh live fish has little or no odour. Perhaps not to man, and you may be surprised at a scent being left in water. But water retains a scent well, as may be seen from dogs readily recognizing the scent of deer, and following it across a stream. And as to the powerfulness of different smells, it evidently depends on the capacity of differently formed olfactory nerves for appreciating them. It is astonishing how a dog will follow at speed

the scent of his master's foot, left, through a sock and through a thick boot, on the gravel path on which it has been only momentarily placed while walking, and detect it also from other footsteps. A man might sniff away for ever, and never recognize the presence of any odour whatever on that pathway, except perhaps the smell of earth. At the same time a man is struck offensively at several yards distance by the stench of certain things which the dog almost touches with its nose, and very deliberately examines before it seems to have made up its mind. If this last example were not enough to show that different olfactory nerves appreciate different odours very differently, we all know the conclusive dictum of the huntsman that his checked hounds had lost the scent "all along o' them stinking violets." And so we say the olfactory nerves of the otter are endowed with the power of recognizing the scent left by a live fish in the water.

The otter (*Lutra nair**) is the nīrnai, or water-dog of the Dravidian languages of Southern India, the pānika-kutha, or water-dog, again, of Hindustani; and the different names applied to it in Sanscrit mean water-cat, water-rat, and water-animal (udrah†) from which last our word otter is probably derived. And why should he not be utilized as a water-dog, instead of being exterminated before his uses are discovered? Why should he not be domesticated and bred for the chase in the water, just as the wild dog has been on land?

The wild dog is very destructive to game, and so is the otter to fish, it being estimated in England that each otter destroys a ton of fish a year. But the domesticated dog under man's control is very useful to his master, and the following extracts will show that the otter can be readily domesticated, much more readily I imagine than the wild dog, and affords both sport and business-like profit to his master. If the same attention were paid to the breeding and training of otters as has been paid to dogs, there seems no reason why similar marked results should not be obtained in varying size and power; at any rate you can very soon get a retriever otter, and that is about all that is wanted. I have now, as I write, three little otter pups diligently sucking away at a pariah bitch, though they made difficulties at first on the score of the dog's teats being not so fine as an otter's nipple. When their eyes

* The common English otter is *Lutra vulgaris*.

† For the Sanscrit, my authority is the late A. C. Burnell, Esq., of the Madras Civil Service, whose scholarly attainments are well known.

open, I trust that they will awake to the fact that they are dogs after all, and should comport themselves as such. They are not "unlicked cubs," for the pariah takes to them in this respect, and it is hoped that the educational career that is before them will form their minds, and make them morally all that can be desired.

And now I will let the following extracts from *Land and Water* speak for themselves:—

FIGHT BETWEEN A JACK AND AN OTTER.

"Sir,—Much having been lately said in *Land and Water* about Otters, I beg to offer a contribution.

"Many of your readers may not be aware that these very sagacious animals are capable of being tamed, indeed I may say domesticated, or, in other words, that they can be trusted to go free about the premises, to which they become quite attached, like cats or dogs. In some parts of India they have long been used, not only for fishing for their masters, but for driving fish into nets. Having had such interesting pets, and having been instrumental in others keeping them, I could give quite a curious history of them; but at present this is not my object, which is to try and describe a glorious battle, which came off on the 21st instant, between a trained otter and a very large pike. I was summoned to the scene of action by the otter's master, Mr. Hulse, of the Rifle Brigade, who brought it from India about a year since. The pond where the fish was is a small but deepish one in Stoke Park, near Guildford. The otter, following its master to the place, entered the water and immediately dived, when we could follow his track as he hunted below by the long string of bubbles ('bells,' as otter-hunters term them), which, coming from his nose, marked his passage. In a short time there was no doubt as to 'a find,' as the rush and troubled state of the surface too plainly indicated, for it was like two express trains in full chase of each other. All this lasted but a short time, say, about half a minute, and the exertion and coldness of the water, etc., seemed to take a good deal out of the animal, for he not only came up to breathe, but landed, and after rolling himself, which they delight in doing, 'time being up,' in he went again at the word of command. Many rounds like this took place, the pike always breaking away, until it was varied by the capture of a carp, the head of which he was allowed to eat. His appetite seemed whetted by this, for he became very eager, and, whenever he came across the pike, a great struggle took place, but the big fish seemed such a monster that he could not worry him, yet, by the aid of his feet, he turned him over once, but never brought him to the top, though the otter's tail often waved above water. Up to this time behind the fish's head was the part attacked, his great and powerfully-armed jaws being avoided, but now the fish was

evidently growing weaker, and the otter changing his tactics by attacking the enemy in the rear. Each round told in favour of the otter, and, finally, 'the sponge was thrown up' by the beaten fish being towed to land by its tail, amidst the loud and hearty whoo-whoops! of all present, the doubtful battle having lasted above half an hour. The fish, which proved to be a female, weighed 20 lbs. 11 ozs., and the weight of the otter (a female, and very like an English otter) is only 18 lbs. Thus ended as well-contested a battle as I ever witnessed, and a sight I would have gone any distance to have seen. Surely all true Englishmen must admire the bull-dog pluck of this animal, and endorse Mr. Benson's sentiments, as given in your last impression, which clearly is that it is a disgrace in this enlightened age of progress and civilization to allow ignorant keepers and watchers to exterminate the poor otter. Otters will travel any distance, and I have no doubt that some of those which have lately been so cruelly murdered are from the Wey, in my neighbourhood, and consequently I particularly regret their loss, for I know they do much more good than harm, and this knowledge I have gained by studying their habits for years, both in the wild and tame state. I have plenty of fish, and I cannot see that they diminish; and yet I am seldom without an otter or two, and sometimes a brood of them, for they are sacred here, as well as all rare birds, etc. Occasionally I find the remains of a small jack or an eel which they have caught and partly eaten. I know *they scent these under water*, and bring them up from the mud: indeed, they prefer them to every thing. Then they are very fond of frogs, and they will kill water-rats, water-hens, and even rabbits occasionally. They certainly seldom kill large fish in the wild state when they can get smaller more easily. Otters appear to grow for about two years, and they seem to differ considerably in weight. I once saw one killed in the Lune, near Lancaster, by Mr. Lomax's otter hounds, which was 28 lbs., and that excellent sportsman told me that the largest he had ever seen was a male, which weighed 30 lbs. It was found in a hollow willow, in Warwickshire, and was evidently a patriarch, from its teeth. I hope some day to hear of a salmon being presented to Mr. Buckland's Museum of Economic Fish Culture, killed by Mr. H.'s otter."—F. H. SALVIN.

The more thoroughly to convince my reader of the practicability of utilizing the otter for sport, I add still another extract, which is taken from "The English Cyclopædia."

"But it must not be supposed that the common otter is, as it has been asserted, confined to the fresh waters.

"That the common otter is capable of domestication and attachment we have ample testimony. Albertus Magnus, Aldrovandus, Gesner, and others attest this. Every angler will remember the passage in Walton, where good Mr. Piscator is anxious to possess himself of one of the young otters which the huntsman, after the death of the 'bitch otter,' had found:—'Look you,

says the huntsman, 'hereabouts it was she kennelled ; look you, here it was, indeed, for here's her young ones, no less than five ; come, let's kill them all.' 'No,' exclaims Piscator, 'I pray, Sir, save me one, and I'll try if I can make her tame, as I know an ingenious gentleman in Leicestershire, Mr. Nich. Seagrave, has done ; who hath not only made her tame, but to catch fish, and do many other things at pleasure.' Buffon, who could be as hard of belief in some points as he was credulous in others, disbelieves the otter's capability of domestication. The testimony above noticed has been confirmed by a cloud of modern witnesses. Goldsmith mentions an otter which went into a gentleman's pond at the word of command, drove the fish up into a corner, and having seized on the largest, brought it out of the water to its master. Daniel, Bewick, Shaw record instances of the animal's docility in this way. Mr. Bell and Mr. Macgillvray both corroborate the fact. The latter has collected the following anecdotes :—'Mr. M'Diarmid, in his amusing "Sketches from Nature," gives an account of several domesticated otters, one of which, belonging to a poor widow, when led forth plunged into the Urr, or the neighbouring burns, and brought out all the fish it could find. Another, kept at Corsbie House, Wigtonshire, evinced a great fondness for gooseberries, fondled about her keeper's feet like a pup or kitten, and even seemed inclined to salute her cheek, when permitted to carry her freedoms so far. A third, belonging to Mr. Monteith of Carstairs, was also very tame, and though he frequently stole away at night to fish by the pale light of the moon, and associate with his kindred by the riverside, his master, of course, was too generous to find any fault with this peculiar mode of spending his evening hours. In the morning he was always at his post in the kennel, and no animal understood better the secret of keeping his own side of the house. Indeed, his pugnacity in this respect gave him a great lift in the favour of the gamekeeper, who talked of his feats wherever he went, and avowed, besides, that if the best cur that ever ran "only daured to girn" at his *protégé*, he would soon "mak his teeth meet through him." To mankind, however, he was much more civil, and allowed himself to be gently lifted by the tail, though he objected to any interference with his snout, which is probably with him the seat of honour.' They are however, dangerous pets, for, if offended, they will bite grievously.

* * * * *

"*L. Nair*,* has the fur deep-chestnut, lightest on the sides ; lower part of the neck and cheeks, as well as the throat, reddish bright-brown ; above the eye a ruddy yellow or yellowish-white spot.

"This is the *Nir-nayie* of the people of Pondicherry, and is probably the species seen by Bishop Heber, who passed a row of nine or ten large and very beautiful otters, tethered with straw collars and long strings to bamboo stakes on the banks of the Matta Colly. 'Some were swimming about at the full extent of their strings, or laying half in and half out of the water ;

* The common otter of Europe is *Lutra vulgaris*.

others were rolling themselves in the sun on the sandy bank, uttering a shrill whistling noise as if in play. I was told that most of the fishermen in this neighbourhood kept one or more of these animals, who were almost as tame as dogs, and of great use in fishing, sometimes driving the shoals into the nets, sometimes bringing out the larger fish with their teeth.' Another proof, if any were wanting, of the feasibility of taming these animals and rendering them useful to man."

Of a different species of otter the writer of this article continues :—

"D'Azara further states that a neighbour of his purchased a young whelp, which at six months old was 34 inches long. It was permitted to run loose about the house, and was fed with fish, flesh, bread, mandioca, and other food, but it preferred fish. It would walk into the street and return, knew the people of the house, came when called by name, and would follow them like a dog, but its short legs soon failed it, and it soon grew weary. It would amuse itself with dogs and cats as well as with their masters ; but it was a rough play-fellow, and required to be treated cautiously, for it bit sharply. It never harmed poultry or any other animal excepting sucking-pigs, which were not safe within its reach, and it would have killed them if it had not been prevented. It entered all the rooms, and slept always below the bed, was very very cleanly, and always visited one particular spot for the deposit of its excrements."

Lastly, I must give the reader an extract from our eminent Indian Naturalist Jerdon's work on "The Mammals of India," where he treats of "The common Indian Otter," which he calls *Lutra nair* :—

"Accepting the synonymy as above,* then, this otter is found throughout all India, from the extreme South and Ceylon, to the foot of the Himalayas, and from the Indus to Burmah and Malayana, frequenting alike rivers and

* *Fam. Mustelidæ, Weasels and Martens. Lutra Nair.*

F. Cuvier—*L. chinensis* and *L. india* ; Gray—*L. tarayensis* ; Hodgson—Elliot, Cat 15. Blyth, Cat 214. *Pani-kuta*, H. ; *Nir-nai*, Can. ; *Neeru-kuka*, Tel. ;—all signifying water-dog—*Jal Manjer*, Mahr., i.e. water-cat. *Ud* or *Hud*, *Udhi Udbillan*, Hindi.

The Common Indian Otter.

"Description.—Above hair brown, or light chestnut-brown, in some grizzled with hoary tips, in others with a tinge of isabella yellow ; beneath yellowish-white, or reddish-white ; upper lips, sides of head and neck, chin, and throat, whitish, the line of separation between the two colours more or less distinctly marked ; in some the throat tinged with orange-brown ; paws, albescent in some, simply of a lighter shade in others ; tail, brown beneath. F. Cuvier, in his description, mentions some

salt water inlets, and from the level of the sea to a considerable elevation. It has its lair under large rocks, among boulders ; and, in alluvial countries, excavates extensive burrows, generally in some elevated spot close to the river, with numerous entrances. It is almost always found in parties of five, six, or more, and, though partly nocturnal in its habits, may often be seen hunting after the sun is high, and some time before sunset. I have seen a party out in the sea, on the Malabar coast, probably making their way from one backwater to another, but as they are very numerous on this coast, they may now and then hunt in the sea. This otter is trained in some parts of Bengal to assist in fishing, by driving the fish into the nets. Young ones are not unusually caught in the fishermen's nets, and are very easily tamed. I had one brought me when very young, whilst at Tellicherry, on the Malabar Coast, which I brought up with a terrier dog, with whom it became very friendly. This otter would follow me in my walks like a dog, and amuse itself by a few gambols in the water when it had the opportunity, and now and then caught frogs and small fish. As it grew older it took to going about by itself, and one day found its way to the bazaar, and seized a large fish from a Moplah. When resisted, it showed such fight that the rightful owner was fain to drop it. Afterwards it took regularly to this highway style of living, and I had on several occasions to pay for my pet's dinner rather more than was necessary, so I resolved to get rid of it. I put it in a closed box, and having kept it without food for some time, I conveyed it myself in a boat some seven or eight miles off, up some of the numerous backwaters on this coast. I then liberated it, and when it had wandered out of sight among some inundated paddy-fields, I returned by boat by a different route. That same evening, about 9 P.M., whilst in the town, about one and a half miles from my own house, witnessing some of the ceremonials connected with the Mohurram festival, the otter entered the temporary shed, walked across the floor, and came and lay down at my feet ! ”

The peculiar formation of the otter's tail is not without interest. It is not round like that of a dog, cat, or rat, but flattened, and specially

pale facial spots, but these are indistinct, though there is sometimes a faint pale eyebrow.

“ Total length up to 46 inches, of which the tail is 17, and 3 inches wide at the base.

“ I have followed Blyth in joining *L. Nair* and *L. Indica*, though at one time I was strongly inclined to believe them distinct. My impression was that the common otter of most of the rivers of Southern India, at all events, was distinct from the generally larger, and more robust otter found in such numbers along the Malabar coast, and in Lower Bengal ; and that the latter, besides being larger, had the fur more reddish or yellowish brown, and with the two colours much more distinctly divided ; in fact, more resembling *Lutra vulgaris* ; but in the absence of authentic specimens, I can only draw the attention of observers for future verification.”

at the base, where it is 3 inches broad. It is flattened horizontally, too, as in the Cetaceans (whales and porpoises, etc.), and not perpendicularly as in true fish. Were it meant only for a propeller in swimming, it would have been most useful had it been put on like a true fish's, but the advantage of having it flattened horizontally is that the otter, like the whale and the porpoise, is thereby enabled to come rapidly to the surface for air. Ordinarily it is used like the whale's tail or "flukes" to bring it to the surface head foremost, but from Captain Salvin's letter above quoted, it would seem that when the head of an otter is forcibly kept down by a struggling fish, the tail of the otter is still a power to bring the otter to the surface tail foremost, and it is readily intelligible that when holding on to a fleeing fish, the otter can put on a very heavy drag by simply curving its tail. On the few occasions which I have as yet had of being near a swimming otter, since I wished to observe it with this view, I have never seen it use its tail in swimming; the tail trailed idly behind, while the otter swam with its feet only. I can understand the horizontal compression of the tail being very useful and necessary to the animal in diving, as well as in rapidly coming to the surface. In a long-continued dive, when giving chase to a fish, how could the otter regulate the depth of its dive sufficiently rapidly, without its horizontally flattened tail.

The otter always comes to the shore or a rock to eat its prey, or to shallow water in which it can stand, and sits up and looks about it like a dog, and, when eating, holds the fish down with its sharply-clawed feet just as a dog holds a bone on land, and growls over it in somewhat the same fashion; but when standing in shallow water it holds the fish up in air between its two fore-paws, and every wild otter that I have noticed always commenced eating the fish by the tail, like a wise general cutting off the retreat. When wishing to travel with its capture, however, it always retakes it in its mouth, so as to have the use of the fore paws for swimming. When lapping milk, however, it is much more like a dainty cat, and it spits much like a cat. How neatly it picks up or catches a fleeing frog! Active minded though it be, and taking quick and long leaps, and more slippery than any cricket ball, the frog is fielded in the best style of "Lord's" and is "well held" too, and no mistake. And then what a quantity of them an otter eats. My babes, which have grown while this chapter has been with the printer, require a regular commissariat of frogs, and my major-domo complains that

frogs are more expensive than sardines!! But then veracity compels me to admit that the price of fresh sardines is here from 300 to 600 for an anna, say Anglice from 200 to 400 for a penny. For the present I confine my little otters to frogs, as the only meat diet besides their "cunjee" or pap; for I lost an otter by letting them take too early to fish. When they are old enough to cost me no more anxiety *in re* diet, I must try to find out by experiment whether they prefer fishes or frogs, and how much of each they voluntarily eat. It is beyond a doubt that otters are useful, in destroying frogs, which are again great eaters of fry certainly, and I think of spawn too; but the question is whether the good they do in this way preponderates over the havoc they commit on fish. The weight of general opinion is against the otter; but what of that, who has not been misjudged? He has a staunch friend above quoted, and he is certainly entitled to an impartial trial.

I have been asked to say what became of my otters. They grew, and their numbers were added to, and they had a dog-boy all to themselves, and went out walking with him, answering to his call and following him, and playing round him, the admiration and amusement of many, as they went out for their daily walks. But I could not give them as much personal attention as an experiment of this sort requires, and I had to be away on circuit for months at a time, and coming back, found my personal intervention resented, and the dog-boy's authority lapsing. In an evil moment I added to their number an otter puppy that had been weaned by its own mother, and had thus seen a little too much of the world. This one went about with a collar and chain trailing to prevent its escape. But it taught my little innocents bad ways, till, having established the leadership of age, it one day gave a shrill whistle, which was a call to the others to follow, and dashed into a well. All followed, and all were entangled in the chain, and all were drowned together. It would have been better if I had tried a single otter, with only dog companions to help in its education; and it is useless to attempt such a task by native proxy as I did; you must be able to give much personal attention, and to bring up the animal almost entirely in your own company, and have him much alone with you. Numbers are against you.

CHAPTER XXIII.

SPAWNING.

“I marvel how the fish live in the sea.

Why, as men do a-land; the great ones eat up the little ones.”

PERICLES.

A FEW general words will suffice to show how much room there is for interesting inquiry in connection with the reproduction of fishes, and to what good use information on the subject can and has been turned. Most readers will be aware that in the case of salmon and trout the female produces eggs without any connection with the male, and when they are ripe within her, scoops out a hollow in the gravel to receive them, and as she exudes them the male or cock salmon, who waits upon her, ejects over them a milk-like fluid called milt, which fertilizes them, and in which the spermatozoa can be detected by the microscope. The ova of trout are covered with an adhesive matter which makes them keep more or less together, and therefore more within the influence of the milt, than if they were separated, and which makes them adhere to stones, so that they are not in danger of being washed down, even by a strong stream, and do not need to be covered as was formerly thought. Again the spermatozoa are observed under the microscope to radiate in the most regular order, so that nothing escapes them. This manner of breeding makes it comparatively easy for man to capture male and female fish, express the ova of the latter when ripe into a bucket of water by very gentle pressure of the stomach, and then similarly cause the male to emit milt, and stirring the two up together, to fertilize the eggs, and hatch and rear them under protection. It has been calculated that, when exposed to the ordinary vicissitudes of nature, only one in a thousand salmon ova ever becomes a fish fit for the table; whereas man has learnt by artificial means to bring about three quarters to maturity.

The Mahseer and many other fish breed in the same way, with this difference, that the Mahseer appears, as already shown (p. 42), to lay its eggs not all at one time, but in several batches. The Mahseer might, therefore, be artificially multiplied in the same way as the salmon and the trout.

In India, however, we have another means of culture in the rice-fields, which are filled at times with the fry of all sorts of fish, the Mahseer, amongst others. As it is the instinct of some mature fish to ascend the rivers for the purpose of spawning in small waters calculated to suit the puny strength of their tiny fry, and by their shallowness to afford them protection from predatory fish, so is it the instinct of their fry to descend, as they grow, to deeper, wider waters. In India, moreover, they are compelled to do this by the decreasing in the hot weather of the rivers. Down the river these fry dawdle, therefore, feeding as they go. But as the rivers are frequently dammed up and turned off for irrigation purposes, they naturally go with the stream down the irrigation channel, and consequently find themselves in a rice-field. In the shallow water of the rice-field, and under the shadow of the growing rice, they would do very well, were it not that death awaits them at every turn, in basket traps placed at every drop from rice-field to rice-field, into which they fall by still following their natural instinct of descending the stream. It is hoped the day is coming when these rice-fields will, some of them, be utilized for the preservation, instead of the destruction of fry, and others have their connection with the river guarded with gratings. Some further remarks on the subject will be found in "Tank Angling in India."

While some fish, like the Salmon, the Trout, and the Mahseer, lay their eggs in hollows worked out in the gravel, others lay them in the sand, where it is pretty to see the tiny fry still nestled together after birth, so closely that they look like one black spot, in a hollow like an inverted cone of one or two inches in diameter, with their umbilical sacs still unabsorbed. Other fish, again, like the perch, lay their eggs in long strings like beads, and adhering by a glutinous matter to bushes. The stickleback builds a nest among the reeds and keeps fierce guard over it. It is the male stickleback that builds the nest, and that unaided by the female, for in due conformity to the rules of modern society he makes no matrimonial overtures till he has provided for the becoming maintenance of a wife, and no girl stickleback with any

self-respect would think of accepting him without a furnished house. The murrel takes up its quarters in a hollow in the bank, and protects its young by keeping them in a crowd, and swimming under them till about two inches long, when, like other predatory animals, it kills them if they do not separate. Some sharks bring forth young alive, some deposit them in a purse with tendrils for attachment to seaweeds, and their young flee for refuge into their mouths. Certain cat-fish, *Arius*, I have observed, hatch their ova in their mouths, and keep them there even after being hatched. Dr. Day and I examined over 500 of these fish in company on one occasion, besides the observations we had each made at other times separately. The conclusions we came to were that the female seemingly holds the eggs as she extrudes them in her two large cup-like ventral fins, where apparently they are fecundated, and whence they are taken by the male, who thenceforward keeps them in his mouth, never eating till they are hatched. The eggs sink in water, and are about half ($\cdot 5$ and $\cdot 6$) an inch in diameter, consequently the males were found on an average to carry not more than 16 ova each; and the female laying about 50, she seemingly occupies three husbands. Some friends were going over my little museum with me one day, and a lady, hearing how the bringing up of the children was, in this case, left unreservedly to the devoted husbands, turned reproachfully to her husband, "A very *proper* arrangement." Thus was the poor henpecked *Arius* held up as an example. Some sea-fish spawn in the open sea, leaving their ova, which float, to be hatched on the surface, some in the sand, some among the rocks and seaweed.

As a *general* rule the ova of fresh-water fish sink to the bottom, and the ova of sea-fish float. It is a wise provision that it is so. The ova of river-fish require to reach the bottom to prevent their being washed down by the stream that would otherwise soon carry them to the salt water and destruction. If the ova of sea-fish similarly sank, they would, at the bottom of the deep sea, lose the life-giving influences of that heat and light which they gain by floating on or near the surface.

CHAPTER XXIV.

STOCKING PONDS.

“But we'll take no care when the weather proves fair;
Nor will we vex though it rain;
We'll banish all sorrow, and sing till to-morrow,
And angle, and angle again.”

IZAACK WALTON.

EXCELLENT fishing might frequently be had in ponds close to one's own residence, ponds to which you need make no expensive pilgrimage, as for the mountain-loving Mahseer, ponds to which you might easily resort any morning or evening that you had an hour or so to spare. Golden opportunities for creating excellent sport are thrown away through want of knowledge, so I shall venture a few words on stocking ponds in India.

First, I will tell you of a little experiment which I made myself. Close to my house at Vallam, in the Tanjore District, was a rain-fed pond of some three to five acres of waterspread, as my memory runs. It ran very dry in the famine, and the opportunity was taken to clear it out for sanitary purposes. Thus it had been cleared of all predatory fish, and this was my opportunity. When it refilled with water, I put in about 2 lbs. weight of well selected fry of non-predatory fish. Their intrinsic value was about 2 annas, say, 3*d.*, but, by reason of my living 7 miles from the river, I actually paid 2 rupees, say, 4*s.*, for them. I threw in a handful of small snails, and I prohibited any sort of fishing for eighteen months. I soon saw the banks lined with young snails, and observed that the fish were doing well. At the close of the eighteen months' rest, I made it known that any one might fish with rod and line as much as ever they liked for nothing. The banks soon showed increasing numbers of native anglers. When they had got well accustomed to it, and were thoroughly happy about their takes, I

said, one day, "You get all this good fishing for nothing, because the watchman prevents netting." (He was the municipal watchman whose business it was to see that the drinking water was not befouled or stolen, and nothing extra had to be paid him on account of the fish.) "Will it be a great thing for you all to give him one fish in ten of what you take, so as to keep alive his interest in being your protector?" "Not at all," they answered with willingness; and so it was arranged that the watchman was to take tithes, and henceforward I called him the "Rector" in my notes. I gave him a few days to fall into grooves, and then I told him to keep an account of what he got daily. He did so, but he complained that the anglers stood very rigidly to their one in ten, never giving him one in nine or two in nineteen, and never giving him a good-sized fish when they got one, but always the smaller ones. I thought this was better than encouraging him to be grasping, so joined with him in deploring the depravity of mankind, but did not interpose in his behalf. The result, you will see, was that his tithe was very much less than a real tenth, was probably much nearer one-sixteenth or one-eighteenth of the real weight of fish caught. This was more satisfactory for my calculations than over-estimating. He kept this account for a month in an average sporting period. I frequently weighed his tithes to arrive at a fair average of the weight corresponding to his numbers, and here, again, I erred on the side opposite to exaggeration. I found that anglers were taking fish out of that one pond at a rate which amounted to 4000 lbs. weight of fish a year. As time went on, anglers rather grew in numbers than otherwise, and some of them took to it, not as a pastime, but as a profession, selling their takes; and as the fish grew bigger, they started country-made reels and running line, as I taught them, and always met me with a pleased look as I strolled round to ask what sport, and look at their bags; and after more than a year had passed, they declared that not only had all the fishing made no impression on the fish, but the total takes were continuing to increase. As there was no netting, only angling, I let them fish all the year round without any close time.

Among the fry that I put in were some Labeos. The natives were very positive that they never bred in ponds, but needed running water. I thought they might be induced to try breeding in a pond when they found it impossible to get to a river, and the event proved I was right. After a time, Labeo fry were caught very much smaller and more

numerous than I had put in. When these fish began to grow in size and multiply, the total weight of the takes increased very much, and this did not take place within the eighteen months, when I took my fish census.

From the above little story I think I may fairly be allowed to say that my 2 lbs. weight of fry yielded, after 18 months, 4000 lbs. weight a year, and in subsequent years yielded at a much greater rate.

This was the result of careful selection of species, species that would not prey on each other, and that would more or less feed differently. The native fishermen brought me pots full of fry, the majority of them dead as usual, and, pouring them out on the ground, I cast the predaceous ones on one side, and saw them killed, and the desirable sorts I selected with my own hand, and put them into the pond myself. Some people, in stocking a pond, put in any fish the natives recommend for size and flavour. Foremost among their recommendations are the Murrel and the Freshwater Shark. As well might you expect to raise a flock of sheep successfully by turning wolves and wild dogs into your fold along with your lambs.

The first thing to be done in stocking a pond is to be sure you have no predatory fish in it. It is very hard to be sure of this, while there is a drop of water there. The Murrel also is one of those fish that can live in the mud of a sun-dried reservoir. It is best, therefore, to dry your pond, and clean it out, using the silt for manure, for good manure it is, and raising a crop in the bed of the reservoir. This cultivation of the bed of the pond should not only consummate the destruction of any fish fry or ova left in the mud, but leave the bottom more full of insect life to form good feeding for fish when the water is turned in.

Then water turned in should not be brought by a channel from a river, or by overflow from another reservoir, so that fry of all sorts of fish might indiscriminately find their way in. You should be able to be certain that no fish can get into your pond, but such as you select and put there. If your source of water-supply is at all doubtful in these respects, you must be very careful with gratings.

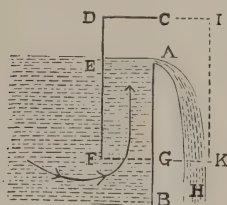
First, throw in a few water snails to make food for your coming fish; the small black one, Tamil, *Ummachi*, is the most common and the most useful. They will soon multiply astoundingly, and the minute young snails, smaller than any pin's head, form excellent food for fry,

while the full grown ones are taken by the mature fish. If you like to take the opportunity of breeding some in a glass tank, it is very pretty to see how they feed. Crumble some biscuit powder very fine between your fingers, and let it drop quietly on the water, and it will cover the surface like scum. You will then see how the stationary snail feeds itself thereon. Remaining quite stationary on the glass, it creates a current which draws the fine biscuit powder to and past it in a continuous stream; and if you watch closely, you will observe that there is much less biscuit powder in the stream that leaves it than in the stream that comes to it. I thought to breed snails for my fish, and put some in a large bathing tub in my garden. They did famously, till an observant old Turkey cock went his rounds one morning and ate them. *Similia similibus curantur*, so I ate him. I should think it would not be a bad plan if you are preserving fish very closely, so closely that you want to feed them for the table, as in stews, to have a separate very small pond in which to breed snails free from being preyed on when minute, so as to have a constant and large supply of mature ones wherewith to feed your fish. Snails are excellent scavengers, and rapidly clarify water.

A few water-weeds will help to clarify your water, will give food and harbour to both fish and snails, as well as numerous larvæ which make fish food; and some fish will lay their ova on them. But if your pond is frequented by bathers, you must be careful what you put in. I have known a poor fellow drowned by having his legs caught by weeds, and I had a most narrow escape of it myself, when swimming home after snipe shooting, in preference to walking a long way round a long tank. There is a weed which grows from the bottom by a long stem, about the thickness of your Mahseer running line, with small hairs at long intervals on each side of the stem. It is very brittle, and easily breaks away from the swimmer, and it is beloved by the fish, and snails, and larvæ, and easily removable when excessive, and it does not die down and make the water offensive at times, as some other weeds do. In Tamil, it is indifferently called *perumpàshi*, *kodipàshi*, and *ilaipàshi*.

In stocking any pond you must be careful to provide against escape of your fish by the overflow. The first idea that occurs to one is to bar their way with a grating. But a grating that will prevent the passage of fry must be very fine indeed, and such a grating

on the surface is liable to be very soon choked with the débris that always floats down with a flood. Let A B be a section of your bank, and A the point of overflow, A H the outfall. You will, of course, be guided by circumstances in the amount of height



you allow at A C for overflow, and in diminishing its height and force by lengthening it. Run out a plank C D E F one foot or more, continuing E F at least 2 feet and more if possible below the surface of the water, at the lowest level of the outfall. At F G have a fine wire grating. Then any débris floating down towards the overflow must necessarily come

against the plank at the surface of the water at E, and the grating F G is left clear and unchoked for the flow of water, and F G being well below the surface, the draught of water is not enough to overcome the buoyancy of the débris, and draw it down so far. Similarly the instinct of fish is to escape by the surface, never by the unnatural course of the arrow, and if any stray curious one should accidentally find the unusual outlet, which he will not if it is deep enough, you have a fine wire grating F G. If the pond be a small one, and the overflow slight, A G B, instead of representing the bank, may be a pipe let through the bank as a syphon, and lead anywhere into the pond, and surrounded by a box, K I D F, as shown in dotted line. If the overflow be considerable, the strength of it may be minimized by extending its breadth, and C D E F *may* be formed of masonry, and at any slope, and turfed over for appearance sake. But the cheapest way is to make it of a plank nailed to posts. If in floods the highest flood over A is a foot deep, it follows that the space A C must be fully that with a good safe margin to spare, and the space between F and the bottom must be not less.

This much of my last edition I will allow to stand here, because it is not repeated in "Tank Angling," and for the rest I would refer my reader to that volume, to which the subject more properly belongs, and in which I daresay it may some day be still further elaborated.

CHAPTER XXV.

MISCELLANEOUS.

"HAMLET.—A man may fish with the worm that hath eat of a king ;
and eat of the fish that hath fed of that worm.

KING.—What do'st thou mean by this ?

HAMLET.—Nothing but to show you how a king may go a progress
through the guts of a beggar."

SHAKESPEARE.

DID you ever watch avadavats going to bed ? It is a provoking sight, because they take such a long time tucking themselves in. Yes, they tuck themselves in, it is a fact ; and they do it in a very provoking way, provoking to their neighbours as well as to spectators. They all perch huddled together in a row, and seem to be arranging it comfortably enough for all parties when just as

"Tired nature's sweet restorer 'balmy sleep,'
* * * his ready visit pays,
Where fortune smiles,"

the unfortunate avadavat at the outside awakes to a sense of his weather side, which is exposed, being colder than his lee side, which is against his neighbour's ribs, and suddenly jumping up runs along the backs of his sleeping neighbours, and wriggles himself in, in the middle. This half wakes and annoys every one, and they all look cross about, but shortly get over it, and are just comfortably off to sleep again, when avadavat No. 2 at each end discovers that the absence of an outside neighbour, and consequent exposure to the elements, have similarly seduced his weather side of its caloric, and convinced him that avadavat No. 1 was not such a fool as he looked after all, so he too jumps up impulsively, scuttles along the backs of his fellows, and

tucks himself in, in the middle. And so the tucking-in process goes on as one outsider after another cools down, and wants a warm place in the middle of the row, till it is too provoking to look at any longer. Fancy fellows with long claws running over your head all night long at intervals of a quarter of an hour, and your being blandly asked the next morning if you "had passed a pleasant night!" It would be too exasperating. But that is just what these avadavats do every night of their lives. And that is just what several of my ideas want to do, they keep on wanting to tuck themselves in, in the wrong places. But I cannot stand that, so these avadavatish ideas are allotted a perch to themselves, whereon to jostle, and wriggle, and tuck themselves in higgledy-piggledy, just as they like. Between ourselves, I verily believe that, even after they have been arranged for the night by the printer, they will fidget about and change their places. I therefore disclaim all responsibility for their order.

Crocodiles are very shy, and not to be caught, except by night line. A simple way of setting this is to get a bamboo of full thickness, and 10 or 12 feet in length. To one end of it tie a hook with only a foot of line between hook and bamboo. I used three large sea hooks tied together like a treble hook. The line should not be a single cord, which the crocodile can bite in two, but fifteen or twenty pieces of common twine tied together at the ends, but not twisted at all. These will get between his teeth, and escape being bitten, and their united strength will hold him fast enough. Bait the hook, which must be a large and very strong one, with a bull frog, or a fowl's entrails, or a couple of crows, or any meat, and push the whole out into the lake, pool, or fort moat in which the crocodiles are, and leave it for the night. If there is a slight current, it is easy enough to attach a stone, by way of anchor, by a long string to the other end of the bamboo, and to drop it in. The line between the bamboo and the hook being so short, the bait is kept near the surface, and is not liable to be concealed amongst weeds, etc., at the bottom; when the crocodile takes the bait and turns down with it, the shortness of the line, and the ready opposition of the floating bamboo, quickly strikes the hook into him, and the more he tries to get down the more stoutly the bamboo resists him, for it is full of air from end to end, and is a very powerful buoy. As long as he keeps to the water the bamboo plays him well, and if he tries the land he will soon be brought up with a round turn by the

bamboo getting hitched amongst bushes. As far as my experience goes they always take to the land eventually.

I have been told that good fun can be had out of the crocodile by baiting as above in the daytime, and setting a man to watch from a distance in concealment. The man must be very still, and well concealed, and at a distance, or not a crocodile will be hooked, for they are very wary. Directly one is hooked he gives the information. Then into small boats quick, one man in each prow with a hog spear, start fair, and "ride" or "off" for first spear. As he sees the boats coming, down goes the crocodile, and up stands the bamboo, more and more upright the deeper he goes, so that the more he tries to avoid you, the more conspicuous becomes his course. Follow him up, for if the bamboo is a big one, as it should be, it will be so strongly buoyant that he must come to the top soon. There, now, the bamboo is beginning to slope, showing that he is coming to the surface. Now is your time for a spear. But look out for his tail—it is very powerful. If he upsets you, he has big brothers about, and they may reverse the sport.

What is the difference between a crocodile and an alligator? Sir J. Emerson Tennent, in his interesting sketches of the Natural History of Ceylon, makes it clear enough:—

"The Portuguese in India, like the Spaniards in South America, affixed their name of *lagarto* to the huge reptiles that infested the rivers and estuaries of both continents; and to the present day the Europeans in Ceylon apply the term *alligator* to what are in reality *crocodiles*, which literally swarm in the still waters and tanks in the low country, but rarely frequent rapid streams, and have never been found in the marshes among the hills. The differences, however, between the two, when once ascertained, are sufficiently marked, to prevent their being afterwards confounded. The head of the alligator is broader, and the snout less prolonged, and the canine teeth of the under jaw, instead of being received into foramina in the upper, as in the crocodile, fit into furrows on each side of it. The legs of the alligator, too, are not denticulated, and the feet are only semipalmate."

The Gangetic Garial has a lengthened beak which marks him unmistakably. I have adopted the modern spelling of the 'Royal Natural History.'

"Probably owing to a clerical error on the part of its first describer the slender-snouted crocodile known in India by the vernacular name

of garial, is almost always spoken of in Europe as the gavial, while its misspelt name has even been latinized into *Gavialis*."

Do not deem crocodiles to be unmitigated evils. They have redeeming points like the rest of us. I have found in the stomach of one, beetles which eat spawn, tortoises which eat fry, otters which eat fish, besides fish which it had taken itself. Doubtless their chief use is to keep down the larger predatory fish till man comes in and dispenses with their services.

Have you ever had a porpoise in a boat or net? He is like a bull in a china shop, is difficult to kill, and will stand a good deal of cudgelling. The natives have a very simple way of disposing of him. They just plug up the blow-hole with a lump of clay, and he is soon suffocated.

I once had a young whale on shore. What brought her ashore, whether mistake, or fright of enemies, I know not. She was in full health and vigour. We got hold of every rope and every man we could muster, and tried to pull her further up, but we might as well have pulled at Regent Street. Ropes broke like pack-thread, and the tail, pardon me, the flukes, kept banging on the rising tide, and making reports like a pistol. Men produced knives and made great incisions in the poor thing's sides, so that the whole arm passed in after the knife right up to the shoulder. Every wave that came up went back dyed with blood. But to no purpose, the tide was gaining on us faster than the whale would die. It was clear she would soon have water enough to float her, and then she would laugh us all to scorn. The above-mentioned way of killing porpoises occurred to me. Sea-sand was the only thing available. I took up handful after handful, and reached up and poured them into the blow-hole faster than she could blow them out. The effect was very rapid, and the approaching tide, instead of helping her, helped us to get her huge carcase higher up the shelving shore, and secure.

Have you ever been in a boat that leaks in the bows, or in any particular spot, and noticed the ready means by which the native boatmen confine the leak to its own locality, and thereby keep the rest of the boat dry, till such time as they can conveniently get it caulked. Just fore and aft of the leak they run up a little wall of dabbled clay as high as the water-mark. The consequence is that the leak cannot spread. If you want a well for live bait it is easy to apply

this cheap and ready plan. Bore in the bottom of the boat a hole or two of a size that you can easily plug with a cork at other times : and fore and aft of this leak run up your mud walls, making your well just as large or as small as you like.

But if you want to keep bait alive at your house for any time, and have not a running stream, you must oxygenate the water by growing water-lilies in it ; by having a fountain playing in it, which is very easily arranged ; by blowing into it with a bellows from time to time ; or even by taking up some of the water in a tumbler, and pouring it in again from a height.

If you turn a fish belly upwards, he loses his power in the water. It is like putting salt on a bird's tail, but natives can do it.

Has it never surprised the angler that he seldom catches a fish with a single scale wanting in its whole coat, though those scales come off all too readily in his hands. It is because scales are renewed like feathers ; and it is believed that a salmon exfoliates its whole coat of scales every year, in the same way as a bird moults, and that this is the reason why a foul salmon looks so dull and dirty with its skin minus scales ; while a clean run salmon is resplendent with a brand new set of silvery scales.

Fish have a marked line, somewhat like a pencil mark, on each side. This is called the lateral line, and its position and course is very carefully noted by naturalists. It is formed by minute perforations in each scale ; and it is supposed by some that its use is to allow of the exuding of the slime, or mucous matter, with which a fish's scales are covered ; by others for allowing the escape of a fluid which lubricates the skin beneath ; by others to be organs of sense, connected with nerves, and sensitive of forms of vibration, and hearing depends on vibrations.

It is not commonly known that sea-fish can be acclimatized to fresh water, but it has been done again and again. The salmon is an instance of a sea-fish taking kindly to fresh water of its own accord. The Sable or Hilsa (*Clupea ilisah*) is another, and instances might be multiplied. But besides those fish that by nature resort at times to fresh water, those also that never go of their own accord into fresh water, have been acclimatized to it.

Fish, like the tench, which are bred in muddy water are improved for the table by being kept a few days in stone troughs, in bright spring water.

“Like a fish out of water” is a common saying, the drift of which needs no expounding. I venture to question its accuracy in its full acceptation. I venture to think a fish out of water is not quite so much abroad but that it has still a sense of where the water is, and that it makes as good efforts to regain it as a man that cannot swim does to gain the shore ; makes as good efforts, in short, as could be made by an animal of its formation. Crocodiles travel long distances to water. Eels, too, are well known to cross meadows in the night, and not to fail to find their way back to the water. The climbing perch (*Anabas scandens*) intelligently retraces its way to its own element.

Why should not all fish have a sense of knowing, by smell or otherwise, where the water is, and making their best endeavour to regain it ? It is true they are generally aided in their efforts by the shore ordinarily shelving down to the water, and it is thence concluded an accident that their jumping about resulted in bringing them nearer to their own element. But the shore does not always so shelve, and yet the same result has taken place so often with me, that I could not help observing it. When considered without prejudice, it is more natural that the fish should have this sense than that it should not. Savages and other animals seem to have an intuitive knowledge of the points of the compass to aid them in selecting their direction. Why should not fish have a similar power adapted to their needs ?

I do not believe that a fish suffers more pain from being caught by a hook than from being caught by a net. We all know the well-worn story of the angler, who, hooking a perch foul by the eye, so that the eye came out and he lost the fish, would not be troubled to rebait his hook, as the fish were taking so fast, but cast it in just as it was, with the eye on the hook, and immediately caught the owner of the eye on that very hook. That perch cannot have suffered much ophthalmically, his appetite must have been his chief trouble. I have myself seen a shark hauled half out of water, when his weight was such that the chain attached to the hook broke ; within a very few minutes, however, he was again following the ship, and in the clear ocean water we could see the chain hanging out of his mouth. A new hook was rigged, and on his being hooked and pulled partially out of water, a sailor swarmed down the rope, and slipped a noose over him, because of his great size. We soon had him on deck, and recovered the old hook and chain. That shark cannot have suffered much pain, even from the hauling of

several sailors. How do you account then, you will ask, for a fish dashing away directly it feels it is hooked. I say it is not from pain, but from fright at the sense of restraint. If it were from pain it would give in sooner. Fish are equally frightened at the same feeling of restraint in a net, and struggle hard to break through the meshes. They will do the same from your hand. Fish were created for capture and food, and I do not suppose that it is as unpleasant to be caught with a hook as to be masticated by a Freshwater Shark. We have no records of the sensations undergone in being masticated, whereas we do know that drowning and hanging, forms of suffocation, are rather pleasant than otherwise; so those say who have tried, and I suppose you would rather take their word for it than try yourself. There is a vision of green fields. True, they didn't complete the experience, but they liked it well enough "as far as they'd got" as Brigham Young said of matrimony. And fish are killed by suffocation. They begin by being out of breath as mentioned above, those which are hooked in the mouth more so than those that are hooked foul, because you interfere more or less with their respiration. It is said, too, that a fish is drowned by water entering through the gills. When out of water they are still more suffocated unless, as some do, you kill them with a blow.

Mr. Henderson, in his "My Life as an Angler," writes that he had just lost a fish with more than half the casting line, and immediately after caught a 9 lb. salmon in the same lie:—

"What was our surprise," he adds, "to see hanging from its mouth the lost line with a long array of heavy shot attached to it. On examination we found that the first set of hooks was planted far down in the stomach; and yet, though the long heavily-weighted line was hanging in a strong stream, and therefore tugging at that most sensitive organ, our salmon's appetite was equal to a second breakfast. Surely this bears out the comfortable theory that fish have little feeling."

In "The Moor and the Loch," by John Colquhoun, London, John Murray, Albemarle Street, there is the following further testimony to the same effect:—

"Having tied a cast rather hurriedly in the morning, I hooked a good fish upon my bob . . . when the single knot slipped. Two days after, when fishing the same place, I again hooked and killed a fine trout, upwards of a pound weight, and to my astonishment my own handiwork, with two inches

of gut, was sticking in his lip. One of the fraternity, sedulously employed on the opposite bank, remarked, that 'it must have been an honest trout, for it was not for want of temptation that he kept the hook for the right owner.' . . . The insensibility to pain, which an angler can scarcely fail to notice in these cold-blooded creatures, is a point which happily redeems from cruelty the necessary inflictions of his craft. I recollect catching three fine trout one evening when trolling on Loch Lomond with a friend, and we discovered hanging out of the mouth of one of them a strong hair line. On opening the fish we found a large bait-hook fixed firmly in his stomach, the wicker and part of the hook being nearly digested. The creature had evidently been caught and broke away from a set line, and though hooked in so vital a part, not only took our bait greedily, made a most capital fight for a quarter of an hour, but was in the very finest condition, having fattened on his hard fare instead of wasting from torture."

In connection with the power of language, vocal or non-vocal, in fishes (pages 77 and 83) I omitted to mention that I have had trout emit distinctly audible sounds in my hand, perhaps mechanically produced by the unavoidable pressure of the hand, but seemingly not so. I grant that it is very rare to hear a trout make a noise with its mouth, but that is no argument, for it is equally rare, if not more so, to hear a fox utter a sound when run into; only once out of hundreds of kills have I heard a Deccan fox cry when picked by the silent greyhounds. With *Barbus Carnaticus* it is rather the rule than the exception to make a noise when caught, and they do it when in the bottom of the boat as well as when in the hand, so that it is clearly voluntary. The fact that sound is uttered at all, if, as it seems, it was voluntarily not mechanically produced, is a strong argument for the general power of utterance, and that, again, is an argument for the concomitant power of hearing, which some have denied. Though, without an external orifice, the ear is internally traceable in fishes.

Do fish sleep? If you can solve the enigma you will be clever. It is a question worthy of a competitive examiner of most malignant type. Thus I wrote in the last edition. But the same question having been recently thrown out in *Land and Water* I have endeavoured to reply to it as hereunder quoted, with the kind permission of the editor.

"SIR,—Your correspondent 'Laird' has propounded to us the conundrum, 'Do fish sleep?' remarking that 'the question affects not only the salmon tribe, but also all kinds of fish,' and asking for 'experiences.' Apparently he has had some experiences himself, but hesitates to give them. And well he may, for if any one were to say that he had seen a salmon, or

any number of salmon, asleep—aye, fast asleep—the first obvious question would be, ‘How do you know they were asleep?’ We must first be agreed, then, as to what sleep is, and what are the indications of sleep that may be accepted in settlement of the question. The ordinary sign of being asleep in a mammal is closing the eyelid, but this indication of sleep you cannot expect to see in a salmon, simply because it has no eyelid, and the absence of any eyelid or nictitating membrane would seem to argue further that the salmon had no need for it, and consequently no need for sleep, which is ordinarily accompanied in mammals by a closing of the eyes, so as to shut out the light and free the brain from its exciting influence. Still it does not seem safe to conclude that because a salmon is not formed so as to sleep under the same conditions as a mammal, therefore it cannot sleep at all, and though the *prima facie* probabilities may be strongly against a salmon sleeping, as we ordinarily think of sleep, yet they are hardly conclusive, and there are other considerations which may, in their turn, make us lean to the opposite view.

“The prior question seems to be, what is sleep? and it may help us if we go back to it. Sleep is common to mammals and birds, and, as far as we can judge from its relations to them, it would seem to be a cessation, more or less complete, of the voluntary energies of the body, and especially of the brain, for the purpose of staying waste or allowing of recuperation—and to recur periodically. But the duration, the completeness, the periodicity, the purpose, all vary so widely in different species, individuals, and ages that we have been able to observe, that we are led to the unavoidable conclusion that in all probability there are still as many varieties of sleep in the regions beyond our observation as there are within it. For instance, among human beings the sleep of an infant is much heavier and longer than that of a healthy mature man, the new-born infant sleeping almost continuously, the man for six or eight hours in the twenty-four. In the infant the duration of sleep required would seem to be in some measure connected with growth. Then consider the widely-differing quantities of sleep taken by the same individual bird in summer and winter. Here the duration of sleep would seem to be connected with the presence or absence of the means of procuring food for the recuperation of the system in place of sleep, and also with the exciting powers of light. But light is by no means a constant factor, many birds and mammals being more active by night than by day. Digestion seems to be another purpose, if we notice how young chickens always nestle under the hen directly they have had a full satisfying meal, and carnivora sleep off a gorge, and some humans find a post-prandial nap irresistible. Heat and cold are again other factors; witness the sleeps of æstivation and hybernation, observable, the former in the crocodile and the fish that live for months in a torpid state under the sun-dried clay of an eastern clime, the latter in the bear, the hedgehog, the dormouse, etc. How different again are the degrees of suspension of energy. In the sleeps of æstivation and hybernation it approaches very closely to a complete loss of

animation, while in animals such as the hare and the weasel its lightness has passed into proverbs. But passing from the sleep of birds and mammals we find that many insects have periods of torpid seclusion connected with the varying requirements of their conditions of life; and even plants sleep, closing their petals at night, erecting and folding together their leaves, the sensitive plant losing its sensitiveness, and plants, generally, exhaling at night a different gas from what they exhale by day.

"If, then, sleep obtains in such endless variety of degree and purpose in such a multitude of forms of animal and plant life within our knowledge, does it not raise the presumption that it may well obtain also, in many more ways not yet within our knowledge; is not the presumption rather in favour of sleep in some manner being a general rule rather than an exception? And in the case of fish we have the still further presumption in favour of their having the power of sleeping, by the known fact, instanced above, of some of them sleeping the sleep of æstivation. As to hybernation, also, we know that the ova of the salmonidæ are ordinarily influenced by it every year in nature, and can, by its aid, be kept in a state of suspended animation for lengthened periods, at the will of man, when under transport to the Antipodes. We have also read of fish frozen as stiff as sticks reviving under warmth, but I do not know how much reliance may be placed on the accuracy of such statements. On the whole, therefore, there would seem to be nothing improbable in the idea of fish enjoying times of suspended energies of the nature of sleep.

"It may be argued *per contra* that the character of the element in which fish live precludes sleep, in that they must keep on exercising their muscles to maintain their position. But even in a stream positions can be, and are, chosen by fish in which the necessity for movement is reduced to a minimum—as, for instance, behind a large stone, under a protruding bank, or among roots. And it is not necessary to sleep that the cessation of muscular action should be complete, only that it should be reduced so as to give repose. Birds, for instance, and some horses, sleep standing, and birds exercise other muscles to keep the head under the wing, and even man continues to exercise the muscles of his eyelids to close them and keep them closed, and the muscles of his respiratory and blood-circulating organs, only in a less degree than when not asleep. It is a matter of degree, varying with the needs of the system in case.

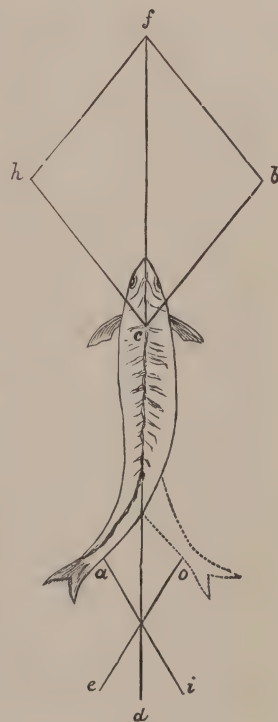
"For myself, I incline to the belief that the needs of fish likely to induce sleep are probably connected with temperature, as indicated above, and with food, for it is noticeable that fish can endure prolonged fasts, during which they remain inactive, and that they are *per contra* endowed with the most rapid digestions, so as to allow of their recuperating the system in marvellously brief periods. Their rate of growth is so much more regulated by food than by anything else that, reasoning from analogy, it is a natural conclusion that the presence of exceptional powers of digestion and growth, under exceptional feeding, argue the probability of the converse obtaining

in the need for exceptional rest in the absence of food, and this I should call sleep.

"In my humble opinion, therefore, fish do sleep. But it is as difficult to prove as to 'catch a weasel asleep.'

"And now it is my turn to propound a conundrum to 'Laird.' Do fish yawn? My belief is that I saw one yawn to-day. I have a stream of ornamental water running through my grounds, and as I stood, motionless, watching a trout keeping his position, with scarcely perceptible motion, in a languid part of the clear stream, now and again rising to a black gnat, he opened his mouth very slowly below the surface, and more widely than for ordinary respiration; and it seemed to me that he was longer in closing it than he ordinarily would be when taking food. But I have never seen the like movement in a fish before, and it is idle to draw any conclusions from a single, and perhaps imperfect, observation."

A fish's means of progression has interested me much, and may similarly interest some of my readers. I, therefore, make the following extract, and copy the drawing from the English Cyclopædia:—



"The whole of the fins are more or less employed in certain kinds of movements. In order to ascertain the true use of the fins in swimming, Borelli, having cut off the ventral fins of a living fish, put it back again into the pond. It then rolled from side to side like a drunken man, and could not keep an upright position. When the fish move with great velocity the pectoral fins are laid close to the body, in order that they may not retard its motion; and in rapid motion the tail becomes the great propelling organ. We shall therefore now investigate its mode of action. The first movement of a fish from a state of rest is produced by a flexion of the tail (as seen in Fig. at *a*); during this movement the centre of gravity (*c*) is drawn slightly backwards. When the tail has arrived at *a*, it is forcibly extended by its muscles in the direction *a i*, perpendicular to its plane; the force of its action upon the water in *a i* is translated to the fish in the direction of *i a*, causing the centre of gravity (*c*) to move obliquely forwards, in the direction *c h* parallel to *i a*. The tail having reached the centre line *c d*, its power

of urging the body forwards not only ceases, but during its flexion on the opposite side in the line ao , it tends to draw the body backward in the direction oe . Having reached the point o it is again rapidly extended in the line oe , causing an impulse on the centre of gravity in cb parallel to oe . If the two forces ch and cb acted simultaneously we should obtain the resultant cf ; but as they do not, the point (c) will not move exactly in the right line cf , but in a curved line which lies evenly between dch and a line drawn parallel to it through h . The fish being in motion while the tail moves from side to side, according to Borelli, it describes an ellipse instead of a circular arc, which would be the case if the body were stationary and the tail only moving. The velocity with which fishes move, and the continuance of their movements, are enough to give us an idea of the great strength of their muscles, especially when we reflect on the density of the fluid which is opposed to their speed."

This is doubtless the manner in which the tail is used when the fish swims rapidly forward in a straight line. When it wishes to turn abruptly to any side, successive strokes of the tail are made on one side only, and the body curled round as much as possible, and the pectoral fin on the inside of the curve is, I think, thrust out, and the one on the outside of the curve worked. The pectoral fins are certainly used for turning slowly, but the tail seems to be the great motive power when turning rapidly, as, for instance, when passing a fleeing fish and turning round so as to take it in head foremost. Every ray in the tail, and in any other fin, is under as much separate command as each toe in a duck's foot, and in drawing up the tail for a blow, the fish can contract the tail as a duck does its webbed foot, expanding it again for the blow; or it can shape and use it like the cross-fanned screw of a steam vessel. As the ventral fins enable fish to maintain a horizontal position in the water so does the dorsal fin. I have noticed a goldfish which had no dorsal fin, and though it had been hatched thus it could not well command its position in the water, but rolled slightly. Goldfish are unusually subject to deformity. The pectoral fins are used to swim slowly backwards. The anal fin also seems to be used in maintaining the horizontal. It and the dorsal fin are much prolonged in the murre, which, in accordance with its bottom-seeking habits, has not so much of the ordinary compressed shape of a fish, but, being more than ordinarily depressed, seems to need this additional provision. It is the same with the extensive anal fin of the bottom-feeding *Wallago attu* (Freshwater Shark).

We may stay pleasantly for a moment to note a peculiarity in the locomotion of fishes. It is based on principles markedly different from those which govern the locomotion of birds and beasts. The flight of birds is in the midst of a highly elastic element, the progression of beasts on the outside of an inelastic, immobile substance, the swimming of fishes is conducted in the midst of an inelastic but easily-displaced element. Again, the locomotion of both birds and beasts is dependent on the law of gravitation, whereas fish may be almost said to dispense with it, at any rate relatively to the element in which they move. It is not so with a bird; it could not move in the air if its superior weight therein did not supply it with a fulcrum whence to apply power, and with the means of utilising in some the principle of the inclined plane. The fish, however, is suspended in the midst of an element of very nearly the same weight as itself, so nearly the same weight that the dilation or contraction of the little air bladder, which most fishes possess, suffices to make it heavier or lighter than water, and consequently to fall or rise quickly therein. To solve the problem of locomotion in such widely different circumstances would have sorely puzzled man surely. Even with the secret laid bare before him, and availed of in steamers, what a very poor approach has he made to the rapidity of the motion of fish, a progression so rapid that the eye can scarcely follow the trout that has darted up stream like a vanishing shadow. What is 16 or 20 odd knots an hour to 160 or 200? And why should not the latter speed be attained in vessels by following more closely the fish's method of swimming, and utilising the unlimited powers of stored electricity. Surely the "open secret" of the locomotion of birds and fishes may serve, and be meant to serve, to show us how to utilise like powers, and, with stored electricity as a motor, we may well vie with them both in their own elements.

To some this may seem grandly chimerical; but to them we will say that stranger things have happened; such, for instance, as this little book coming to a second and third edition! With such extended means of communication the widely scattered and divided Empire of Britain could be consolidated into far the most powerful nation in the world. But I beg pardon that a follower of "the contemplative man's recreation" should have dared to be contemplative. Those fishes set me on.

Kingfishers do not eat fish and fry only. I have seen them doing good work in killing tadpoles, and when the rivers are discoloured with monsoon floods, in which they can see nothing, they desert the rivers and go miles inland, feeding on young frogs and other things.

When the *Bassia*, the tree called in Tamil *ilippe*, and in Telugu and Canarese *ippe*, sheds its flowers on the water I have seen the *Barbus Jerdoni* and the *B. chrysopoma*, and I suspect others, feeding on it with avidity.

Riding at a foot's pace after a guide on foot is tedious. If you press him you only lose time in the end by his getting out of breath, and it is cruel. Send a man that understands it with him overnight, with instructions to lay a paper scent. With posted horses G. and I did thirty miles across unknown country in this way, country in which it was easy to lose one's way, and got in comfortably for breakfast. With guides at a foot's pace it would have taken us all day.

When white ants are on the water they are said to be like the May fly, in that the fish will look at nothing else. I can well believe it. But their flight is very short lived.

I tried white elephant's hair as a substitute for gut. When dry it seemed as tough as a wire, but when well soaked it became very elastic, and broke at a tension of 6 lbs.

Size in a river affects both the feeding and the lifetime of fish. Regarding the feeding we may say that size in a river ordinarily implies a greater quantity and a greater variety of food; and in India, where rivers are so liable to suffer from drought and from the drain of irrigation, it implies also greater constancy of food supply. Each one of these three items of quantity, quality, constancy in the food supply has a marked influence on the growth of fish; all three combined have necessarily a much greater effect. As to quantity it is marvellous what an amount a fish will eat, and the rapidity of its digestion is extraordinary. You may see trout quite poor in condition after a long drought, and a single flood in the afternoon leaves them markedly improved in condition the very next day. Their food sticks to their ribs in no time. It is a good thing it is not the same with you and me. It is noticeable in fish in an aquarium how, immediately after feeding, they commence to extrude fæcal matter, from whence I argue that peristaltic movements have commenced all down the line at once. And then the quantity fish take. I have caught trout full

to the very mouth of food, at one time of flies, at another of small slugs, at another of young eels. There is no necessity to apply pressure to make them disgorge. Their stomachs were distended, and their last food still unswallowed. And yet they showed no signs of surfeit, for they took my bait and made a much more active fight than a fish in lower condition. I expect a fish with a surfeit is as hard to find as a contented man. I know it is *said* that over-feeding on sewage makes the roach at places in the Thames so gross that they lose their fertility, but I should think it was highly questionable. All other experience is in favour of rapid growth accompanying liberal feeding in fish, and of maturity and fertility being proportioned to the size of the fish. The best fed salmon-par return to the sea and come back as salmon a whole year before others. As to quality of food, it may be noted that three batches of trout having been fed experimentally, one batch exclusively on flies, another on worms, and another on minnows, it was found that the trout fed exclusively on flies showed the most growth and weight, those dieted on worms the next, and those on minnows the least of all. The Loch Leven and other trout might be instanced as profiting by the quality of their food.

If you have a particularly fine fish, or a new specimen, and want to preserve it by stuffing, it is not a difficult matter, but you must then be more careful about getting it home uninjured. Having washed it clean outside commence by entirely covering both sides with a piece of paper each, pasted on, and allowed to dry. The object of this is to secure the fish from losing any scales in the manipulation of skinning and stuffing. With a knife and stout pair of scissors cut from the top of the gill-opening down to the tail, keeping about half-way between the lateral line and the back. Arrived at the tail, or rather within a quarter of an inch of it, cut down at right angles. Turn down the flap thus made, and thoroughly clean out the fish, not neglecting the head. Remove all the bones, except those of the head. Paint the inside freely with arsenical soap. Stuff tightly but shapely with cotton, remembering that fish shrink dreadfully. Sew up the opening with needle and thread. Wash off the paper; spread out the tail and the fins on the good side and back, with pins and cardboard, so that the rays may be easily counted. Paint over outside with spirits of turpentine, dry in the shade and finally give two coats of varnish.

This is the old way of stuffing fish that I was taught at a museum. But I have evolved a method of my own that is, I think, very superior, in that it preserves the true form of the fish, a point which is of great importance to a naturalist, who, from the form and dentition of a fish entirely new to him, should be able to tell you half its habits at a glance, whereas it would be difficult indeed to do so after some taxidermist of the old school has changed its natural shape by bulging it out here and there with tightly rammed in cotton according to his own sweet will.

Directly the fish is dead, and before it loses its figure, on a plank take a plaster of Paris mould of one side of it, the under side, making the mould a little deeper than half way up the depth of the fish lying on its side, so as to round the corner of its stomach, and get the form of it, and yet not so much that you cannot remove the fish when the mould has set. When the plaster has set quite hard, which it will do very quickly, take the fish out of the mould, and proceed as by the old method. This done, wash off the paper and put the skin into the mould, with the cut open side upwards, making it fit well into the mould by pushing it in with a house painter's large brush. Having handy a glue pot of strong glue well melted, and arsenical soap, minus the soap used in its composition, and fine sawdust, smear the inside of the fish skin with a mixture of the poison and the glue, and over it a coating as thick as you can of glue and sawdust, and then fill in with sawdust, so that the glue shall take up as much sawdust as it will, and press down the sawdust to make sure of the skin fitting well into the mould. Then leave it till you are quite sure that the glue is *as hard as a board*. Don't be in a hurry about this, but make quite sure of it by leaving a little of the glue exposed on the plank till it is as hard as it can be. Then you may shake out any not-adhering sawdust and remove your fish from the mould. If you find you cannot do so because you have a little overdone the mould, and the fish is now rigid, it is a fault on the right side, and easily got over by cutting away a little of the mould. Your fish skin ought to come out the exact form of nature, internally lined with a rigid plank-like veneer, formed by the glue and sawdust, that will unyieldingly keep the skin in true shape. Sew up the flap on the cut side, spread fins and tail, and turpentine and varnish as in the old process.

At one time I used to take an outside mould of the fish, and then

in that an inside mould with which to stuff the fish. But the objection to that sort of stuffing is that it is so heavy that in carriage the fins and tail are so likely to get broken, whereas in the method above given the stuffing is quite light.

If your plaster of Paris has lost its virtues from exposure and keeping it is easy to refresh them by putting the powder dry into a pot over the fire until it bubbles freely like water boiling, and finally ceases boiling in consequence of all the moisture having been expelled from it. Then it will be as good as new, and the sooner you use it the better it will set.

For arsenical soap the following recipe may be relied on. Take—

36	Tolas	of bar soap.
30	„	white arsenic in powder.
12	„	camphor.
4	„	carbonate of potash.

Put the soap in one pint of water, and let it simmer slowly for a quarter of an hour. Then add the arsenic flour and well mix it. Avoid the fumes, they are baneful. Pound the camphor in a little spirits of wine, and add it when the soap mixture is lukewarm, and the carbonate of potash when it is cold.

This recipe is in a convenient form for Indians, if it is remembered that the unit of weight, a tola, is exactly the weight of a rupee. It is equivalent to 180 grains.

I add another recipe, however, in English terms:—

Arsenic	..	..	..	..	..	2 pounds.
English bar soap	..	..	..	..	..	2 „
Salts of tartar	..	..	..	..	..	12 ounces.
Camphor	..	..	..	..	..	12 „

Cut the soap into thin slices; put it, with a pint of water, into a pot over a gentle fire, stir it with a wooden spatula; when the soap is dissolved add the salts of tartar, take them off the fire, add the arsenic, and, when lukewarm, the powdered camphor, mixing the whole well together.

Put the compound into a conveniently wide mouthed jar, or glazed earthen pot, taking care to secure it well with bladder and twine.

I have given the above recipes for making arsenical soap because it is what I was taught to use as the only and accepted preparation

for preserving fish. I should not, however, fail to add a caution about its use, which I may as well give in the words of that eminent naturalist Waterton.

“A preparation of arsenic is frequently used ; but it is very dangerous, and sometimes attended with lamentable consequences. I knew a naturalist, by name Howe, in Cayenne, in French Guiana, who had lost sixteen of his teeth. He kept them in a box, and showed them to me. On opening the lid, ‘these fine teeth,’ said he ‘once belonged to my jaws, they all dropped out by my making use of the *savon arsenitique* for preserving the skins of animals.’”

I, too, have sacrificed sound teeth on this shrine, and lately came across a gamekeeper who was, of course, strong, and active, and healthy, as such men have to be. His sound teeth were dropping out. The cause was found to be the same. He was stuffing birds, and using arsenical soap. If you take my advice you will have nothing to do with it.

At the same time I am afraid to commend to you Waterton’s substitute, corrosive sublimate dissolved in spirits, as I am told by the head of a museum with experience, that the corrosive sublimate never permeates the skin, and that specimens steeped in spirits of wine always go to pieces in time when exposed to the air.

For preserving in spirits I can hardly do better than add the following :—

REPRINTED FROM THE “NATURAL HISTORY REVIEW,” APRIL, 1862.

Directions for Collecting and Preserving Fishes.

1. Collect fishes of every size. The eel-like fishes ought not to exceed 36 inches in length ; the broad kinds not 18. Six specimens of each species will be quite sufficient.

2. Tie to each specimen a label of parchment or of tin foil, on which the name of the exact locality where the specimen is procured is written, or a number referring to a list of localities.

3. Cut a small slit in the belly of the specimens so as to admit the spirit, but do not remove the intestines.*

* In tropical climes, decomposition sets in so soon that I think it is better to remove the intestines, notwithstanding the loss.

4. Put the specimens into a large jar or tub containing spirit to extract the water, mucus, etc. This spirit may be used for any number of specimens as long as it is strong enough to preserve them from *early* putrefaction. Leave the specimens in this spirit for from eight to ten days.

5. Transfer the specimens into other spirit, stronger than the former, and leave them there for another fortnight.

6. Pack, finally, the specimens in spirit which is strong enough to be inflammable with a lighted match. In spirit like this the specimens may be shipped, and will keep for six or eight months. Rum or arrack of the strength indicated answer very well for this purpose, but spirits of wine, if procurable pure, are best.

7. The best way of sending specimens is in a tin box fitted into a wooden case. Wrap each specimen in a piece of fine linen to prevent the rubbing off of the scales and other injuries. Pack the specimens as close as herrings, and do not leave any free space at the top or on the sides of the box. Fill the box with spirit, taking care to drive out the air which may remain between the specimens, and close it hermetically by soldering down the cover. The best way of closing the box is to make a small round hole in the cover of the box. First fix down the cover of the box, then pour spirit through the small hole, until the box is quite full. This hole may then be easily closed by another small square lid of tin.

8. Turn the box upside down and see whether it keeps in the spirit perfectly.

9. Reptiles of every description may be preserved in the same way. However, as they naturally contain less fluid, it will be sufficient to change the spirits once.

10. The list should be prepared in duplicate, one copy being retained till the receipt of the other is acknowledged. The list should contain the native names of the fish, and any information of their habits, qualities, etc., that may be procurable. It should state in particular whether the fish was caught in a tank or river.

In India I have found it an advantage to add one in forty of carbolic acid to the spirit, but only when the spirit cannot be obtained sufficiently rectified, and on one occasion on which I could not get any spirit in the forest the same solution in water preserved the fish till I could get them to head-quarters and put them in spirits. Too great a strength of carbolic acid will shrivel the scales. Any of it is objected to by some as injurious to the colour; but as the colour of a dead fish is no guide at all to the colour of the live fish, but rather misleads, I do not consider that objection a weighty one as regards fish. Your spirit may be as strong as you like, there is no fear of

overdoing that for either your first, second, or third bath. In tropical India it is safer to have it strong enough and to spare.

And now, dear reader, before we part company with the miscellaneous chapter, as I am at Loch Lomond while correcting the proofs of these pages, allow me to tell you what ribald jesters here say of "gentle anglers." They do say that: "They go out full of hope, they come home full of whiskey, and the truth is not in them."

CHAPTER XXVI.

FISHING LOCALITIES.

“I am, Sir, a brother of the angle.”—

IZAACK WALTON.

IN my first edition, I wrote:—“This appendix is necessarily a mere skeleton, because it is unavoidably the result of only one individual's knowledge, and public officers in India have not leisure and express trains in all directions to aid them in exploring different fishing localities. In full knowledge, however, of its meagreness, it is, nevertheless, introduced more as a provocation than anything else, for other fishermen to throw together their local knowledge, and perhaps some day make up a useful compilation like ‘The Angler's Diary.’” And recently I sought the aid of the *Asian*, the editor of which was good enough to support my request to anglers most cordially. Kindly have anglers responded, some in its columns, some direct to myself. I must commence this chapter, therefore, with acknowledgments, especially to “Doon,” and the editor of the *Asian*, and I would mention others, but that I am not quite sure that I am free to publish names. With the kind permission of the editor of the *Field*, I have gleaned also in those pages. The list of fishing localities, though much amplified by these means, is doubtless capable of being more than doubled in so vast a continent as India, and if anglers will continue to help, and my book lives to a third edition, they shall find the advantage of it in an ampler record of localities. I shall be glad, too, to be set right wherever I have made any errors in spelling, etc., through want of local knowledge.

The best maps that a stranger can buy for his guidance as to whereabouts are the Government Survey Maps, always procurable at very cheap rates from the offices of the Surveyor-General of India, at

Dehra Dhun and at Calcutta; and probably through any bookseller, but—

The following are named as agents:—

Calcutta. Messrs. Thacker, Spink & Co.

Allahabad. Curator of Government Books, N.W. Provinces.

Nagpore. Curator of Government Books, Central Provinces.

Lahore. Curator of Government Central Book Depôt.

Madras. Messrs. Higginbotham & Co.

Poona. Superintendent Government Photozincographic Department.

London. Messrs. Allen & Co., Waterloo Place.

„ Mr. Edward Stanford, 6, Charing Cross.

India No. 2 is a sheet about 2 feet square, neatly doubled up, of course, giving in one view the principal places and rivers of all India, Burmah, and Afghanistan. The price is $1\frac{1}{2}$ rupees uncoloured, 2 rupees coloured.

For more detail a stranger should have also the same on a sheet about 3 feet 6 inches square, entitled “India without Hills.” It is a good clear map. Uncoloured, 3 rupees; coloured, 4 rupees.

When he has fixed his locality, if he wants to know his immediate surroundings, and every bend in the river, and the cross cuts, etc., he can get a sheet of “The Indian Atlas,” on a scale of 4 miles to the inch, at 12 annas a quarter sheet, the sheets being 3 feet $4\frac{1}{2}$ inches by 2 feet $3\frac{1}{2}$ inches. An index to the sheets of “The Atlas of India,” on a scale of 128 miles to an inch, may be had for 1 rupee, and will enable him to decide what sheets he wants. Many localities have also been thoroughly worked out in the “Angler’s Handbook,” W. Newman & Co., Calcutta, with maps on a large scale attached, showing every bend in the rivers, the larger half of the book, Part II., being devoted to this purpose.

MADRAS PRESIDENCY.

Bellary District.

It is as well to know sometimes where not to go when places look tempting on the map. The Toongabadra runs within forty miles of Bellary. W. H. went by rail from Bellary to Toombadra Station, and

worked up the river nearly to Hampee, and in the whole of that portion of the river there is not a single good run, or likely place for Mahseer. There are one or two deep pools in which there are probably fish, though these are netted constantly; but the bed of the river for the whole of that distance is simply a broad, flat, sandy plain, with some half dozen small streams winding through it. It is nearly a mile broad in many places. Hardly a tree to shelter a goat all the way. N.B.—The writer, W. H., is a good fisherman.

He writes again subsequently: "I never found out any fishing at Bellary, excepting at Balahunshi on the Toongabadra beyond Hospet. There is an anicut there, and some very good runs below it. I got a 14 lb. Mahseer there."

"There are, of course, Murrals and small fish in the larger tanks, such as Darojee, and a lot of Puftahs."

Moral.—Never apply for Bellary, and get out of it as soon as you can.

South Canara District.

All the fish were comparatively small, that is, ordinarily under 15 lbs. I have never known one taken over 20 pounds.

Chàrmàdy.—Here there is a District Officers' Bungalow. This place is only good early in the fishing season, as the stream here soon gets too small. Mahseer may be killed exactly opposite the bungalow; but I would recommend walking down the stream to where the hills close in on it, and then fishing downwards. Take a guide, as there are short cuts from which you can ride home. Time, September, October, and November, and probably later also, till the fever sets in in January and February. Here are bison, spotted deer, and an odd snipe or two. Otters too.

Neriya.—Near Chàrmàdi, and good for Mahseer similarly early only. Fish the larger of the two streams and below the junction. No accommodation. Fish very plentiful, but small, running from 5 lbs. to 7 lbs.

Kàrkāl.—There is a good stream about two miles' walk from hence. It is the river into which runs the tank surplusage. It is good early in the season only, say September and October. You will want a guide.

Kirebàg.—A very good place early in the season. Shooting also good. But difficult of access, and no accommodation. Mahseer.

Sampaje.—There is a travellers' bungalow here. Do not fish the stream in front of it; it is too small to do much in for Mahseer. Take the road to the coast for about a quarter of a mile beyond the bridge, and with a guide strike through the wood on your left to the main river. There used to be tigers, but I think they are pretty well thinned now.

Siradi.—There is a travellers' bungalow here at present, but supplies are somewhat scanty, so go provided. The river may be fished from the shore, both above and below the bungalow. From close above the bungalow there is a long gap of still water which can only be got at by a boat. Above this the river is full of runs. There are fine pools below the bungalow. The Cubbinnàli stream may also be ridden to and fished. Time, September to end of December. Beware of fever in February till 15th June, and then of monsoon floods till September. I never could do anything with the fish in the cold east winds of January. There are other fish besides Mahseer. *Barbus Jerdoni* is very numerous. There are Bison and Sambre about. The place is densely forest-clad, and a great favourite with me.

Kempukal.—There is supposed to be a village of this name some 7 or 10 miles, as my memory serves me, above Siradi on the Kempuholle. I am very indistinct about the distance at this length of time, but I have a very clear memory of beautiful water and good fishing. We had to camp in the forest by the river side, but a very short way off the public road. Supplies none. Shelter none.

Uppinangady.—The place was praised to me, but I did no good there, that is with the fishes, but much in the way of business doubtless!!!

Subramani.—Good till December or January. The Subramani river, which is the Camàrdàri, may be fished both above and below the ferry and ford; and its affluent the Yennakal-holle may be ridden out to. There is no accommodation. Avoid the time of the Jatra, a lunar festival occurring about the middle of November, because the thousands (50,000) of cattle brought for sale discolour the water by their trampling, and the pilgrims befool the approaches, and are everywhere washing at the river's side. Mahseer.

Wondse.—Not far from Coondapur by road or river. There is

a District Officer's empty bungalow, about the use of which no objection is ever made; but no supplies. There are no Mahseer here, but the river holds some lesser Barils and Chilwa, and is full of "Black Spots" (*Barbus filamentosus* and *B. mahecola*), which give excellent sport by their numbers. Leave the road a little south of the police station, and ride by foot-path about a mile up the river. Time from October to January inclusive. Being so near the sea, the place is probably free from fever, even in March and April. Nowhere in South Canara can you go far from the coast later than the end of January without getting malarious fever, of which, however, there is no danger whatever from within a month, say 1st July, of the commencement of the monsoon, about 5th June. But the monsoon makes travelling quite out of the question till September, and the rivers are in high flood and discoloured.

Jadkall.—A similar bungalow, only "Black Spot" fishing, but that is very pretty.

Māla.—No accommodation. Capital Black Spot fishing.

Cooloor.—Stream very small indeed, and fishing even for small fish indifferent. No Mahseer. A rough bungalow like that at Wondse.

Nāgawadi.—A bungalow. *Hannar*, none. Only small *Chela boopis*. Good snipe at the latter.

Biranthadaka and *Biramangalam*.—Not easy of access. No accommodation. Some fair Mahseer water.

Dharmastala.—No accommodation, but a very good station for Mahseer. Try the river, both above and below the ford from the shore. Also take a guide and walk, it is unrideable, through the forest, etc., down to the junction of the two rivers. Try them both from the shore. Also try the grand pools, below the junction from a boat. There is plenty of excellent water. Time, September, October, November, December.

Mangalore.—The only place is the Salt Kotars, and the fish the Cock-up, with an occasional Red Perch. I had excellent sport at times, but numerous disappointments. I never could make out their times. I expect Colonel Osborn is right about their being taken only in coloured water. Never saw any Bà-mìn there.

Cicilly.—Do not touch the tame Mahseer. You will find plenty more farther down the river.

Cundapoor.—Close to the sea. A beautiful spot. There are plenty

of estuary fish close to the bungalow, if you can catch them. They beat me. Others have done better with prawns. In the pond within a ride, the peculiar fishing for *Chanos salmoneus* is worth seeing. The Red Perch is also to be taken in that pond. Also a Horse-mackerel (*Caranx*).

Mudràdi.—In a pond attached to a Jain temple at a place called Warranga, near Mudràdi, there is excellent Black Spot fishing. At Mudràdi there is a District Officer's bungalow.

Coimbatore District.

The Bawanny and the Càvèry rivers, which run through and skirt much of this district, afford excellent sport, and at many places heavy game can simultaneously be got.

Metapolliam is well known from being on the way to the Nilagiris. There are bungalows and supplies here. You can do some fishing from the bungalow, by riding out, but not much, for it is so netted. There is an easy bridle-path to Nellatorai, 4 miles, whence I have fished down to the Metapolliam bridge, killing all the way down to the junction of the Kallàr River, which was so muddy that I took no more below that point. The Coonoor and Kàrteri stream gets muddy very rapidly under very slight rainfall because it is so steep, and comes through so much cultivation, carrying its wash. There was plenty of excellent water. The fish were the Carnatic Carp, but they run small, none being over 3 lbs., doubtless on account of the netting.

You may also fish from the bungalow as your head-quarters, by fishing down stream from the bridge, and sending your horse down the Erode road to ride back on. Nothing can be done without a boat. Basket-boats are plentiful.

But it is far better to camp higher up the river at Tèkàmpatti, where is a forester's hut, available, I daresay, if you can make love to the Forest Officer. Tèkàmpatti is the highest place up the river at which it is safe to sleep. It is well situated a mile away from the river and malaria, and on the plain side.—From thence fish the river, the Bawanny, above and below the Puthùr ford. What we concluded was the best way of doing it, was to be up in the dark, and ride down to the river, across the ford, and along the bridle-path up the other side, the Neilgherry side of the river, till dawn, taking our basket-boats with

us at a foot's pace. It is too rough a road to ride any faster in the dark. Directly it dawned, we called a halt, and put the boats in, and fished alternate pools downwards to the ford, to which our horses meanwhile walked, ready to carry us thence to a late breakfast about twelve. In the afternoon we fished the river downwards from the ford till dusk, and rode home. In December, the river is fordable in one place near the Tèkàmpatti camp, and that is the Puthùr ford, but you must take it circuitously the way you are shown.

The distances, as nearly as we could ascertain and judge by timing ourselves, were :—

From Mètapolliam to Nellatorai,	4 miles.
„ „ „ Puthùr,	4½ „
„ „ „ Chengal,	8 „
„ „ „ Shittugunie,	9 „
„ „ „ Pillur stream,	9¾ „
„ „ „ Kadukai,	10¼ „
„ „ „ Nìrali stream,	12 „
„ „ „ Nìrali Hill,	12¾ „
„ „ „ Pèrali village,	13½ „

The Taimalai brook is crossed just below Pèrali, on the Nìrali side. Thence the road ascends a steep incline, and crosses cultivation at the top of the hill, which belongs to Pèrali. Thence the road strikes down by an easy path to the most magnificent pools and runs you may wish to set eyes on. They are in the midst of the wildest, forest-clad, rocky country, and the water is crowded with grand Mahseer, as Paddy would say, “the wathur's *stiff* with 'em.” But don't dream of sleeping there. I slept as high up as Sittuguni, we being a jolly Christmas party of five Europeans, but every man John of us, black and white, got a thorough-going fever, some being very seriously ill indeed, and we lost one poor fellow of our number from it, in spite of all the good doctor could do for him at Madras. We had been told it was safe at that season. Don't you be tempted to sleep higher up than Tèkàmpatti; there friends and self, and natives, have slept again and again with immunity.

Just a little above Kadukai or Kadavu, which means a ford, is the lowest large pool, just below a waterfall, where you will find Mahseer. Above that pool they swarm, below it you will get splendid pools in abundance, but only Carnatic Carp. At least the Mahseer below it, seem to be so comparatively few, and the Carnatic Carp so many, that

below that point we always put aside our spinning tackle, and took the fly. If you want to fish for Mahseer, therefore, you had better go on past Pèrali; though I have struck the river at Kadavu, struggled up the river to this pool—an awful struggle,—fished it for Mahseer, and then fished the river down to the Puthùr ford, and so back to breakfast at Tèkàmpatti. The natives were very reluctant indeed to show us the river above this pool. We only found it by most persistent clambering, and that is why I have put it down so particularly for you. Below Pèrali you can do nothing without a boat, above it you can do a little from the shore, but to do the river justice, you ought to have a boat. The Mahseer here are, as nearly as I can tell you, “as big as a portmanteau.”

Nirali Hill stands well above the river, and open to every breeze hat blows. A camp on the top of it was found free from fever, and it commands excellent water.

Pàlayur is estimated about 33 miles from Metapolliam, from it we went up by Satchampatti, or Tatchampatti to Chèri Kadavu and Paraputhorai, opposite the Hill Narasanmuku, and fished down to Sunthapatti, say about 6 miles. The Pàlghàt stream runs in just below Pàlayur or Pàlagur. It was all excellent water for Mahseer and Carnatic Carp.

The water above the Koondah and Pàlghàt streams should be free from flood after the cessation of the South-West monsoon about the 1st September, but the Kalar stream is, the Koondah stream probably is, and the Pàlghàt stream may be, affected by showers in the North-East monsoon.

G. and I went by Metapolliam, Tholampaliam, and Gopanèri to Kùdipatti, the junction of the Siruwàni and Bawàni, and came back by Tholampaliam and Karamadi. From Metapolliam to Kùdipatti is a long tug, some 28 miles or thereabouts, and after Tholampaliam the road is rough. We got no fever, but we did get fish. It was there that the brothers Cornly, of 46 lbs. each, with others of 25 lbs., were caught.

Higher up the same river are Attapàdi, Shermangundi, Gopanèri, found mentioned in the Malabar District. From Karamadi railway station carts can go, a native of the locality told me, to Gopanèri, 15 miles, which is 15 miles from Attapàdi, the straight road being by Tholampaliam.

Sirumugi.—There is a public bungalow here, within a ride or drive, 10 miles, of Metapolliam. Between it and the Kanayampaliam anicut, 5 miles, there is nice water, in which you will find Carnatic Carp, but not nearly so many as at Tèkàmpatti. A boat is necessary.

The Kinacorai estate, near Coonoor, is within reach of an excellent part of the Bawàny.

The Bawàny ordinarily clears from the monsoon floods in September.

The Moyàr River is reachable from the Kodanàd estates, some 7 or 8 miles from Kotirgherry. Full of portmanteaux. It is liable to be fouled by the N.E. monsoon.

Animalais.—M. tells me he has caught a 5 lb. fish with paste in the river at Animalai, and that the river is full of runs and rapids higher up, but that falls prevent the fish getting to the higher river. Beware of fever.

Madura District.

The Vygay being generally a dry sandy bed only, you cannot expect any Mahseer in that; but you may get sport at the Pâmben channel with the Bà-mìn, which *see*.

Periàr.—M., an R.E., tells me he caught any number of fish with a fly in the Periàr, near the site of the Periàr irrigation work. My note does not say what fish, unfortunately.

On the Pulney hills in this district is a lake, known as the Kodai-kànal Lake, about which please see Index and the chapter about it.

Pìrmèd.—The Periyar is a fine river. J. C. H. says the Mahseer all run small, but J. F. B. says he has weighed one of 25 lbs. They both agree that Stonehenge is the place to camp at. Do not camp down at the river because of fever. The season is as for Canara rivers, from 7th to 15th September till 1st January. October and December for preference. J. F. B. says Carnatic Carp are also numerous. Natives catch them with a berry. The route is *viâ* Pìrmèd on the Travancore side, or *viâ* S. I. Railway to Ammanà-yananùr and thence transit by Periyakulam to Gudalur at the head of the Cumbum Valley, and then a pony up the Ghàt. Distances from Ammanàyananùr to Periyakulam 28 miles, from Periyakulam to Gudalur 37 miles, from Gudalur to Stonehenge 27 miles. A good cart track all the way. No supplies.

Stonehenge is a mile and a half from a plantation and private bungalow.

From there the head of the Ràni River is approachable, and it is said by both above informants to be "splendid." But it is a *hard* day's work across grassland, and five hours along an elephant path through forest without touching grassland.

Malabar District.

For this district I have had a memorandum kindly prepared for me by W. L. I should premise that the Mahseer are seemingly small, like the Canara Mahseer, and that the country, being subject to the same monsoon, the time is the same. The country being flatter than Canara, the lengths of tidal estuary are greater.

MALABAR RIVERS.

Ordnance Survey Map, Sheet No. 44.

1. *Tullipurmby River*, tidal as far as Chuparapadu. West of $75^{\circ} 30'$ east longitude. Small Moplah village, above which there is a moderate sized stream with pools.

2. *Billipatam River*, the largest river in North Malabar, tidal as far as a mile above Sukukundapuram on the branch joining at Kogem, and as far as Eroocur on the main stream. At Eroocur, a considerable Moplah village, there is a good road running up the right bank to Iritti bridge, when the Perambadi Ghat road into Coorg (not shown in the map) crosses the stream immediately below the junction of the two main branches a little to the north-east of Kishur. Above Eroocur, and on both branches joining at the Iritti bridge, there are fine deep pools and streams swarming with fish. At Eroocur there is a D. P. W. hut: at Iritti bridge there are a native travellers' choultry and a good Amshom cutchery, used also as a police-station; and at Gamoth there is a good travellers' bungalow close to the river.

3. *Anjeracundy River*, tidal as far as Anjeracundy, a cinnamon plantation, belonging to Mr. W. Brown, above which it is a moderate sized stream with pools. At Canooth there is a travellers' bungalow.

4. *Mahe River*, tidal as far as Parakudu, above which it is a considerable stream.

5. *Cootyaddy River*, tidal as far as Cootyaddy, where there is a travellers' bungalow near the foot of the ghat of the same name leading

into Wynaad. There is a large river in the monsoon, but in the dry season there is very little water.

6. Between the Cootyaddy and Beypoor rivers there are a number of streams of inconsiderable size, except in the rains.

7. *Beypoor River*.—The mouth of this stream appears on sheet No. 44, at lat. $11^{\circ} 10'$ W. Turning to sheet No. 61, it will be seen that in length of course this is the largest of the Malabar rivers proper. It is a tidal stream as far as Areacode, but in most seasons small boats can go up as far as Edda, Mummah, and Maumbat. The whole of the upper branches of this river, which spread out like a fan from the Government teak plantations at Nellambur, are interesting from an angler's point of view. There are bungalows at Areacode, Eddamunnah, Nellambur, and Yeddakura, all on the main road leading from south-east Wynaad by the Carcoor Ghat to the coast.

8. *Tiruangady River*, a considerable stream, the upper waters of which would repay investigation. There are bungalows at Mallapuram, where a detachment of European troops is stationed, in the heart of the Moplah country: and at Munjary and Angadipuram, and there used to be another at Alanaloor. The country in this stream and its branches to the west of Alanaloor and Pandekàd, is highly cultivated, there is therefore little likelihood of good fishing, except in the upper waters.

9. *Ponany River*, which runs parallel to the railway from Pàlgàt westward, is a large stream with a broad shallow sandy course. At Cudalloor a large stream comes in from the north-west. The head waters of this branch can be reached from Meonaur, where there is a bungalow on the main road from Pàlgàt to Calicut *viâ* Angadypuram. Another branch comes in from south-east of Cottompally, and, turning to sheet No. 62, it will be seen that the head waters of one branch can be reached from Wurracunchairy, where there is a bungalow, and of the other branch Colungodi,—neither of these streams can, however, be considered promising.

10. The upper streams of the Cubbany,* Noogoo, and Moyaur,

* W. W. H. tried the Cubbany in March, and did nothing as it was coloured.

Of Cavery Falls G. writes that the time to see them is July when they are full, and that they are free from fever from July to November. Consequently I should think the best time to fish those localities would be from 15th September to the end of November, as it is for the rivers on the west coast.

feeders of the Cavery, lie in the Wynaad Taluk, and those of the Bawany also in the Wallawanad Taluk (all in sheet No. 61). The former can be reached from Manantoddy, Bawally, Caukancotta, in Mysore, Gunnapaddyvattam (Sultan's battery), and Guddaloor, at each of which places there is either a bungalow or other accommodation. The latter can be reached from Munaur (No. 9) by ascending the Attapadi (misspelt as Allapady in sheet No. 61) ghaut, but this is an out-of-the-way place with no local supplies.

Of Attapadi, which means the hamlet of leeches, H. writes that he saw fine fish there. I can well understand that there should be, for it is on the head waters of the Bawany, in fact above Perali, mentioned in Coimbatore district. H. writes that Attapadi was healthy in the monsoon, and the water clear even in July and August, evidently because it came through grass and forest, whence there was no befouling wash. All the Mahseer in the river seemed to have gathered up there, and he caught two Carnatic Carp of about 1 lb. each, that were scarred from fish bites, probably bites from Freshwater Sharks, for I do not think a Mahseer bite would leave a scar.

Shermangundi is on the Bawany; the river is clear there in the monsoon, and holds Mahseer. H. will answer for it. Gopaneri is on a feeder only.

Eddawarra, on the Nilambur River. D. saw a 5 lb. Mahseer and Murral and Freshwater Shark caught with live frog suspended on the surface from five feet springy bamboos stuck in the bank, twenty such baits being simultaneously set by the natives.

Nadghany.—D. writes again, there are no fish in the pretty river one mile below the bungalow, but following down stream one mile another river joins, and the Mahseer commence there from the waterfall at the junction. The fish we got there were small, 1 lb. and under; they took your small sized fly (*i.e.*, the smallest one I have mentioned for Carnatic Carp) and were greedy and violent. He and L. got eight Mahseer.

In the Malabar District is also the Ba-min (*Polynemus*) fishing, of which the localities are given in the chapter on Estuary Fishing.

K. G. had sport with Ba-min at Mahe in November and December.

Nellore District.

The Muri.—E. got some good sport, writes C., in the Muri with Freshwater Sharks.

Kistnapatam Estuary.—C. had tackle broken. Thus there is not much to be said for poor Nellore.

Salem District.

Hoginkal, or the Smoking Rock, which is about five miles' ride from Pennàgaram (misspelt Pengugaram in the Ordnance map,) is a very picturesque spot on the Càvèry. Its grand falls and rocks are well worth a visit. Tents are required. No supplies except from Pennàgaram.

H. writes me the water is 65 feet deep. About March the fishermen drive the fish for 20 miles up the river to the long pool below the falls, which are impassable, and block the river below with nets. They cannot net the pool because the water is too deep, and the bottom too rocky, but they fish with lines and catch "tons." There are Carnatic Carp, Freshwater Sharks, and Murrel, but no Mahseer he thinks. I should think there *must* be Mahseer there.

Sholapádi, 30 miles from Salem. H. writes the river is beautiful for fishing, such rapids and pools, and all open, but he chronicles no bags.

Tanjore District.

There is not a ghost of a Mahseer in the district, but I have had good fun with Labeo in a pond about six miles out of Tanjore, on the Combuconum road.

Also in a pond attached to a small temple, half a mile off the road, at a point about a mile from Negapatam, on the Karekal road.

The Tanjore District abounds in Temple tanks, and tanks kept for bathing and drinking and washing clothes promiscuously. These are mostly fed by small channels from the Càvèry and Coleroon, and as their supply comes to them only when the rivers are in flood, it generally brings them fry of all sorts of fish, notably the Labeo, the Freshwater Shark, the White Carp (*Cirrhina cirrhosa*), the Chilwa, and sometimes the Hilsa, vainly endeavouring to regain the sea. The

last-named is a sea fish, *Clupea ilisha*. Some of these ponds cover several acres, and are never netted. But about tanks please see "Tank Angling in India."

At Tirupanandàl, Nidamangalam, Tiruvarur, and Tranquebar are Labeo tanks not mentioned in "Tank Angling."

At Kotur, nine miles east of Manargudi, or half way thence to Tritrapundi, is a tank full of Labeo, but all small 1 lb. fish. The tank is private property.

Tinnevelly District.

Courtallum, the sanitarium of the district, has water near it.

A writer in the *Madras Mail*, 31st August, 1874, says:—

"The Milk Falls are situated in the Pulliary Pass, and about 14 miles of an easy road to the north of Courtallum. . . . The Pulliary Pass is a charming place when it does not rain hard, but during the Courtallum season the rain is almost incessant, and in the dry weather the place is hot and feverish. The pass connects Tinnevelly with Travancore. The road runs for a long way by the side of a babbling picturesque mountain torrent, in which there are places for good fishing. The Mahseer is among the fish found. Comfortable bungalows, situated at convenient distances, are met with throughout the pass. The vegetation is luxurious, and any one delighting in ferns, orchids, etc., game, and scenery, will find the pass a very paradise of pleasure."

This has been confirmed to me on many hands.

B. caught small Mahseer of 5 lbs. at Paupanàssam, and in the Arienkàvu Pass. The season is June, after the monsoon has set in, July and August, and others declare it healthy till the end of January, as I can well imagine.

Paupanassam (properly Pàpavinàsam—the forgiveness of sins; there are many places bearing the same name). B. writes:—Paupanassam, where the Tamberapoorny, the irrigator of Tinnevelly, debouches from the hills by a splendid fall. There are charming streams, pools, etc., about there, and lots of fish.

Travancore.

With its good rivers ought to be as good for sport as Malabar and Canara.

Anglicoorchì.—H. writes, November, 1875, that in the river Toracàdu

he has caught $\frac{3}{4}$ lb. Mahseer with a fly, but did not stir a Carnatic Carp.

Trichinopoly District.

There is business to be done at the Anicut I am told.

B.....y writes, that at the Anicut the Freshwater Shark (*Wallago attu*) run very large; that he had good fun with *Kilathays* (Tamil for *Macrones*), things with feelers, flat under jaw, forked tail. He caught them 5 lbs. and over, with a small fish live bait, and they gave very good sport, being very strong for their size. He stood on the rock when the stream was running slightly through the shutters of the Anicut and making the water just as it should be for trout fishing. They required fine tackle.

He caught *Labeo* also there.

Mysore.

Somewhat recently I have had an opportunity of giving the Toongabadra a trial, and was grievously disappointed, for though the water was in the places named below all that could be desired, and though I did run a few really big fish, the fishing was very poor indeed. Not only did I see the rivers very thoroughly netted by men who understood their business right well, and travelled in gangs netting all the rivers all their lengths, but I saw also cruives set for fry, and was told that poisoning was practised. This seems to be the fate of all rivers in much inhabited or easily accessible localities. Only in out-of-the-way jungly tracts do the fish get a chance. I tried the following places in Mysore, which I may, perhaps, most fairly describe by calling them worth wetting a line in by those on the spot, but not worth making a pilgrimage to as I did:—

Tirthahalle.

Màlur.

Mandagadde.

Sacrabye.

Shimoga.

Bàlehannur.

The last place is not very far from Calasa, where, in former years, I had excellent fishing.

Mr. Sanderson, author of "Thirteen Years among the Wild Beasts of India," also gave me the following list of likely places in Mysore, but it was in 1873, when he was not so great with the rod as the rifle, and I should attach more weight to it if he could have revised it in later years. I should think the forest-clad Cubbany should be good, negotiated in a boat.

"*Hoonsoor* should be your first place; from there you can go to Churchincuttay, on the Cavery, about 16 miles, where there are considerable falls in the river. There is lots of accommodation in the temple, and a Channel Department hut; but take supplies for a day or two, till you can get into swing from Hoonsoor. There is a good cart road.

"About 500 yards below the fall there is a small pool with *big* fish. You will probably see them *rolling* in the evening. From the fall to this point are several grand runs, but rocky. All this holds fish.

"*Mundegherry* on the Hemavutty, about 12 miles across country from Churchincuttay, you might try if you find Churchincuttay answer; there are fish; lots of fine water.

"*Hansogee* and *Ramnathpoor*, 9 and 18 miles respectively up stream from Churchincuttay, with a good road, and accommodation at both places, might be visited. The first has lots of big fish, but only pools. At Ramnathpoor you would see the temple fish. They don't mind your fishing 100 yards or so above the temple bathing steps, where there is good water.

"Returning to Hoonsoor you could run down to the Cubbany, near Heggadevencottah, 20 miles; there is a fair road. Should you do so you should camp at a village near the mouth of a tributary river called, I think, the "Sartee," which you will see on the map; there are *fish*, and Moormen who know their whereabouts well. I caught my 150-pounder there.

"There is nothing in the river at Hoonsoor, the Lutchmenteert.

"I have always had a great opinion of the chances of good sport in the Cubbany, but have never had proper appliances. It is a treat to see the fish rising and feeding about in the runs near Carkencottah.

"The rivers I now have fishing on, are the Cavery and Hemavutty. I do not know the Toongabudra from personal experience, but have heard from natives that it is inferior to the former two. But *the* river for monsters, and lots of them, is the Cubbany. This comes from

about Manantoddy. It is A 1 for all kinds of fish from Carkencottah, in Mysore, downwards to its junction with the Cavery. The fishing is varied and handy. It is certainly the best place, and for 20 miles down in this part of the country. I presume your most convenient way of getting there, would be *viâ* Mercara and Manantoddy. Carkencottah is about 12 miles from Manantoddy, with good shooting if you care for it."

Colonel H. wrote me. Rail to Mysore, 49 miles transit thence to Karkenkotai, road good except last 8 or 10 miles. Bungalow with beds, furniture and crockery, no supplies. The whole place was alive with lusty splashings and rollings in the early morning. Antesaute, 13 miles lower, not so good. Hampepur, 16 miles more, he got only Carnatic Carp of $1\frac{1}{2}$ and 2 lbs. Nungengode, huge fish under the bungalow.

Coorg.

Coorg has, I am told, good fishing grounds in the Cavery, near Verajendrapet; and Sampaje is easily accessible from Mercara. Sport may also be had before the coffee pulping begins at Wottakuli, half way down the Sampaje ghaut, but at Wottakuli the Mahseer are very small, running to about 2 lbs. or 3 lbs.

Manzerabad.—S. writes of a lovely little golden brown Mahseer being taken with a black palmer fly, about the size of a No. 5 Kirby hook, in a rocky little stream at the top of the Manzerabad Ghât. Also at a tank somewhere about Manzerabad, J. writes that he killed, with a black palmer, and subsequently with gaudy flies, on No. 6 Limerick hook, my sizes, fish of some sort, averaging $\frac{1}{4}$ lb., but sometimes running to $\frac{1}{2}$ lb. and 1 lb.

Màranhally.—H. caught fish of some sort, description not given, of 3 lbs. and 4 lbs., roving with a dough bait.

Secunderabad.

Four miles from Trimulgherry is the Hassan Saugar tank, 4 miles across, 16 feet deep at the embankment. Two rods took $45\frac{3}{4}$ lbs. of Labeo one day, and the next day one of them took 26 fish weighing 60 lbs; the biggest being $4\frac{1}{2}$ lbs. But it is said by the native anglers that the fish run to a great size.

Ten miles from Trimulgherry barracks at Secunderabad in the

Deccan, and two miles from Hyderabad, is the Meer Allum tank. It is about 4 miles round, and about 15 feet deep at the embankment. The natives say the Labeo in it run over 20 lbs. My informant caught them up to 7 lbs. only. This tank is fed by the Moosa river, which also feeds the Hassan Saugar tank. My informant says: The best time is March and April, when they bite right boldly, and that the tanks are not low enough till March. He says he has never caught Rohu in these tanks, and the fish I saw in the Hassan Saugar tank were *Labeo calbasu*.

BOMBAY PRESIDENCY.

North Canara District.

Gairsooppa.—This far-famed fall, which beggars all description, ought to be visited by every lover of the grand and beautiful, but *not without a salmon rod*. There is fair fishing above the falls.

Keep the road from the bungalow towards Mysore till you come to the bridge and stream at the bottom of the hill. Just past the bridge a bridle-path will conduct you to a part of the river which is about a mile from the head of the big pool. Thence upwards there is one succession of pools and runs. But the fish are not plentiful or large. I never tried the big pool, but towards the tail of the big pool above the falls, where it first begins to have eddies on it among the rocks, fish are said to have been caught. The water below the falls is recommended by some wag in the bungalow book, but do not you go on such a fool's errand. I have struggled barefoot where natives would not follow, and could not get to any decent water there.

I also waded through the bungalow book, and though "fine fish" are talked of therein, nothing definite is recorded over 5 lbs. In the rapids far above I saw S. kill one of 20 lbs. weight, and we got others of 6 lbs. and 8 lbs., but the majority of the Mahseer were very small, say 1 lb. and 1½ lbs., and the river seemed very bare of fry and of all sorts of small fish. I fancy the river must be very much poisoned, netted, and cruived like the rest of the rivers in Mysore of which I have seen anything; for the river rises in Mysore.

Kālanaddi.—W. says that A. (a dark horse) fishes much in the Kālanaddi from Bommanhalli down to about Ancholi, and he thinks for Mahseer. But I don't warrant it a "straight tip."

Karachi.—An officer quartered there wrote me that it was easy to get seven days fishing, omitting Sunday, out of ten days leave, by going to the Hubb, which is 17 miles from Kurachi by horse or camel. Camel carts *can* go, but are not recommended. No bungalow, no supplies, tents needed. The Hubb, he says, is a large river, with deep pools walled in by rocks. In the large pool just below Morad Khans bund he got a 27-lb. Mahseer on a spoon. The natives say Mahseer are not to be found lower down. Others caught smaller Mahseer with flies. He heard of a 20 pounder having been caught there. He explored for 4 miles above the bund, and found a good many deep pools with sand between, the river being very low, as it was February. Nevertheless the pools were evidently very deep, but not clear, as he could not see the bottom. The water was said to be better the higher you go, which it is natural that it should be, as you would get away from the sand and get into more rocky country. Also February was a very poor month, about the worst in which to try the river. Being influenced by the south-west monsoon the proper months would be from 15th September to 1st January.

Quetta.—An officer fished the Hurnai river from Babar Kuch railway station, going thence to a lovely little bungalow, Kilat-i-Kila, in the middle of the hills, within half a mile of the river, and about 6 miles lower down than Barbar Kuch. Here he had fair sport, the fish running not over 10½ lbs., but all taken on a single-handed trout rod. Much better sport had been had there by another a little earlier. The snows melt there in April, May, June, at the end of July the rivers have cleared, and the best fishing is in August, September, October; by November, when my correspondent was fishing, it gets too cold.

Again he went to Hurnai railway station, and walked 4 miles to a tiny stream in which he and another had excellent sport. It was so small that it hardly seemed worth fishing, yet in two hours in the evening he took 31 fish weighing 24½ lbs., and averaging a little over ¾ lb. each, the biggest weighing 2 lbs. "It was most difficult fishing," he writes, "as one had to fling one's little spoon into tiny little corners or under bushes. In one place I pulled out four fish of about ¾ lb. each, one after another, and yet it appeared to me that I was throwing into a little spot about the size of the seat of the chair I am now sitting on." And yet he was not happy, for he adds, "If I could only have got my leave after the snow water had passed down," etc. He was fishing

mostly with a small Luscombe fly spoon, and sometimes a larger spoon but always a single-handed trout rod. Another officer did better with a salmon rod, and advises it. But I should say the bigger rod must have spoiled the *sport*, though it may have increased the bag.

Poonah.—There is a river not very far from Poonah where good Mahseer have been killed, and other fishing-grounds, for which please see Poonah, in Chapter XIX., on the fishing on hill sanatoria.

Ganjam and Vizagapatam Districts.—The good fellow who writes the following knows how to sympathise with men going to a new place, and unable to get information as to the localities for fishing. There will be readers who will be very thankful for his kindly trouble taken on their behalf:—

“I have for a long time intended to write to you in response to your call on all fishermen out here to give you details of fishing localities, etc., in your great book—invaluable to every Indian fisherman, and especially so to those who, like myself, knew but little of the art before coming out here. My experience is not large, and I only know two districts—Ganjam and Vizagapatam and the Jeypur hills—having spent seven years in those parts. But, as your book contains no details of localities from those parts, perhaps my small knowledge of them might be useful.

“To take Ganjam first. I do not really know much about the fishing there, as I spent most of my time in the Southern Division, and the fishing is mostly in the north. I don’t know of any fly-fishing up there except that for chelas, which exist in places, but there is good spinning for sea-fish in the Chilka Lake, and especially in the canal running from the Chilka Lake to Ganjam, also in the mouths of the Rushikuliya (Ganjam) and Languliya (Chicacole) rivers.

“In Vizagapatam, I must confess with shame that the fish in the estuaries have beaten me completely, and I can give no accurate information about them. It is a treat to see them running at the small fish in the estuary at Vizagapatam when the tide is running in or out, especially just at the end of the ebb. The same thing in the estuary at Bimlipatam, where I saw a native pull out a 4-lb. sea-fish one day on a dead bait with a bamboo and a bell-rope. I have only had three or four tries at these places, and have failed to get anything. But there is no doubt that the fishing is there for anyone who would go in for it in a business-like way. The only chances I have ever had there were when spending an odd week or so there on leave or occasional duty.

“There are lots of chelas in all the tanks in the district of any size that I know, but the tanks are few of them full in the dry weather, and the chelas run very small indeed.

“The only part I really know much about from a fishing point of view is

the Jeypur Hills, where I have been for four years ; and there is some very fine fishing indeed to be got there, though the place is undoubtedly very feverish. No one ever seems to have gone in for the fishing here since the memory of man, and I have not yet half explored the rivers.

"The best chela fishing I have ever seen is to be got in the big tank in Jeypur town. It is about $\frac{3}{4}$ mile long, and always full. The chela run to about 9 inches ; the majority caught are about 7 inches, or slightly less. They have to be fished for out of a boat owing to the weeds, and always prefer a red fly to any other. I use nothing but red and black palmers and spinners for them on the smallest hook I can get. The following bags have been made out of one boat there :—

June 5th.	43	chela,	1	rod,	about	1	hour,	evening.
„ 15th.	60	„	1	„	„	$1\frac{1}{2}$	„	„
July 2nd.	112	„	3	rods	„	1	„	„

And I always get a couple of dozen or so any evening I like. I am always most successful on a windy day. Sometimes I get a little blue fish (a baril of sorts, I think), and when they are rising I get two of them to one chela on the same flies. They always go for a black fly, but prefer a black and silver fly to any other. They are very small, and only seem to run about $3\frac{1}{2}$ inches or so. There are lots of big murrel and wallago in this tank, but they are very difficult to catch—no labeo as far as I know.

"The best river is the Machkunda, which rises in the ghâts above Vizagapatam, near Pâdêru, and runs into the Godavery above Râjahmundri. I have caught small Mahseer with bait right up at the source of this river, where it is a mere nallah. Not far from its source there is a curious place called the 'Machigummi,' or 'fish-hole,' at a village called Matam, where the river runs under a lot of huge rocks. In the middle of these rocks there is a small pool or opening about 3 yards in diameter, communicating underground with a large and deep pool 20 yards lower down. There is an old priest at the village who feeds the fish there every day. He goes to the side of this opening and calls out 'Machi, machi, machi,' and the fish come crowding up into the opening from underneath. I have seen twenty or thirty fish all crowded together thus. They will eat out of your hand, and appear to run to about 9 lbs. in weight. They don't like one to fish about there, so I have never caught any. They are rather like Mahseer, but very red about the fins and tail, and have a curious dark blotch on the side, near the tail (something like the illustration of the 'black spot' in your book). They are very like a Mahseer otherwise in shape and nature of head.

"Mahseer are plentiful all down this river and up its affluents, and also in the 'Kolâb' river, which runs from the north of Jeypur into this river. All through the north of this district the rivers are too muddy at all seasons to fish, owing to the red soil they come through. But down in the 'Mal-kangiri' taluq in the south (some 70 miles north of the Godavery), they are

all fishable in the cold weather and up to June, though seldom quite as clear as they might be. Either owing to this, or to inexperience, I can seldom catch them spinning, and never with the fly. I have never taken on a spoon, but have got a few running up to 5 or 6 lbs. on a phantom. I find the deadliest bait is a ball of raggi paste on a treble hook, trundled down a rapid into a pool. It is usually taken just as it drops into the pool. If fishing with it in a slow, big pool, I just throw it in (with no float or lead or anything) and let it drift till it settles on to the bottom, then haul it out and try again. It sounds rather a poaching dodge, but it pays even when the water is very thick. I have caught several nice fish thus when the river has been in flood with the rains.

"The best place I know is called 'Kondakemberu.' The river Garepiro joins the Machkunda there, and both rivers are good fishing for a mile or two in any direction from the bungalow. The Garepiro is always clear, the Machkunda usually dirty. I have caught several Mahseer there, but none over 8 lbs., though I have been broken by big ones several times. One fish took out over sixty yards of line in three consecutive runs, and then ran straight up a small fall and cut the line round a rock; so there is no doubt about there being big enough fish there. I have had big ones rise at a fly once or twice, but never hooked them. This river is good fishing down to Mòtu, where the Kolāb joins it, and the Kolāb is good fishing and holds Mahseer up as far as the ghâts leading up to the Jeypur plateau. The places to go to are Podiya and Gorgopilley, Salim, or, in fact, anywhere on the river where you can get coolies and supplies, as the country is wild.

"At Motu there are lots of Mahseer. I have also had some fine red-spotted labeo of 2 lbs. weight or so brought me, caught in nets when the men were catching me bait. The best fishing there is just where the Machkunda and Kolāb join. A small river called the Potera runs N.E. from the Kolab through the Malkunjira taluq. It is fishable all the way up, but dries up in the hot weather with the exception of the deep pools. I have caught all sorts of fish, from a few ounces to 2 lbs., with bait in this river. I do not know what fish half of them are. I have never caught Mahseer in it, and do not think they run far up it; but I have had fair sport with a slow, heavy fish that is either the 'olive carp,' shown in your book, or a near relation. I have caught them up to about 1 lb. They like a sunk fly drawn very slowly, and they don't seem to mind how large the fly is in moderation—black is the colour they affect most. The natives poison some of the pools in this river every hot weather, but only a few.

"I am afraid I have inflicted a very long—and very feeble, as far as useful information goes—letter upon you. Still every little helps, and I should have been awfully thankful for any 'khabar' at all when I came up. I have not half worked out the fishing here, and no one else has as yet. It is extraordinary how few men fish out here; but the little fishing I have done up here has shown what there is to be had if the places are once thoroughly worked at till known."

Localities in the Punjab.

Mr. C. S. Kirkpatrick kindly sent me the following :—

DELHI DISTRICT. *Okla Weir*, 7 miles from Delhi. *Jumma Bridge*.
Head of Canal escape, 3 miles from Delhi.

AMBALA DISTRICT. *Dadapur* (head of West Jumma canal), there is a dāk bungalow at Jagadri on S. P. and D. Railway, 5 miles distant.

Ropar (head of Sirhind canal), canal and dāk bungalows.

SIMLA DISTRICT. Various places on the *Giri*, *Sirsā*, and *Gambar* Rivers.
It will be necessary to take a tent.

JULLUNDER DISTRICT. *Eastern Beyn*, 4 miles from cantonments.

HOSHIARPUR DISTRICT. *Mokerian*, on the Beas, police bungalow.

GURDASPUR DISTRICT. *Batāla* tanks (private). Various places on Beas.
Tent required.

LAHORE DISTRICT. River *Ravi* and *old bed* of the same near the town.

GUJRANWALA DISTRICT. The Chenab near *Wazirābād*, where there is a dāk bungalow. It is a station on the P. N. I. Railway.

JHELAM DISTRICT. Several places in the Jhelam River. The junction of the Poonch and Jhelam Rivers where K. fished is best known. Near the fishing-ground is *Tangrot* bungalow, 8 miles from Ratyal Station, P. N. I. Railway.

RAWAL PINDI DISTRICT. The hill streams at *Chirā*, *Kirpā*, *Kahūta* (police bungalow), and many other places. Also the River *Sohān*.

KASHMERE. *Hatti*, on the Murre Route, bungalow.

Sopur, exit of Wulār Lake, bungalow.

Banair, marshy ground where the Jhelam falls into the Wulār Lake, 3 miles from Hajan, where a tent may be pitched.

Pandritau, 2 miles above the visitors' bungalows at Srinagar.

Korwinee, 4 miles from Islamabad, where there is a bungalow.

Pawzgam, 3 miles north of Aishmakām encamping ground. River Liddar.

C. S. KIRKPATRICK.

Raniket, N. W. P.—The River Sarju or Sujju, at Bageshwar 38 miles from Raniket is described by an officer with rotten tackle as a beautiful river for rocks, runs, and pools, and tackle breaking.

W. speaks of having in the Silhet river caught Mahseer of 35 lbs. 33½, 28, 26, 12, 5 and 2 lbs. with a fly.

Allahabad.—There is good Batchwa and Chilwa fishing from the bridge of boats on the Cawnpore Road, and a good tackle-shop on the spot, to wit J. P. Luscombe, who is himself a fisherman.

Calcutta.—The tanks preserved by the Calcutta Angling Club yield excellent Labeo fishing.

The tanks in the Viceroy's park at Barrackpore are unnetted, and hold large fish, and permission to fish may be had by paying to the Babu in charge of the Park the authorised fee for a pass.

Merut.—7 miles 3 furlongs on the Harper road from Merut is a tank which I should estimate to be about 200 yards by 150, and which is 9 ft. deep close up to the edge, and deepening further in. It is said to be full of big fish, and to be never netted, or fished in except by the sahibs who caught Labeo, and Mirga, and white bellied turtle in it, but nothing over 4 lbs. because it was not a good season for fishing. In the fishing season for this sort of fishing, for which see "Tank Angling," good business ought to be done for the fish are said to run large. The road all the way from Merut is good, and there is a beautiful mangoe tope exactly opposite the tank in which tents might be pitched.

Toondla.—8 miles from it is a well-stocked preserved tank. Permission necessary.

Durbangah.—Has several good tanks well-stocked with fish.

Bhaptiahi.—Has a good tank.

Rohtak.—Has a well-stocked ample tank which is a sunny memory.

Hissar.—There are "two lovely tanks" in this district, from which "beauties" have been taken.

Delhi.—At the bathing ghat at Delhi Mahseer are caught with paste.

Lahore.—A bandmaster, F. K., kindly writes me, and I hope he may recognize his communication, that 18 miles from Lahore, near the flag station, Wagah, is a tank about 30 ft. deep which was built by Rangeet Sing, and which being fed by the canal literally teems with monster Rohus and other fish which from his description are probably Mirga (*Cirrhina mrigala*). He has caught Rohu weighing 34 and 18 lbs.

To the same source we are indebted for knowledge of a large and very deep natural pond near Shalimar, about a mile from the gardens.

Large pukka tank at Kunchui Kapul, two miles from Waga flag station, and about ten from Lahore.

At Batàla, near Amritsa, are three tanks, of which "Mission tank" is the best.

At Alliwai, five miles from Batàla, is good Mahseer fishing at the falls on the canal.

Another informant says that at Karnāl, the adjoining district to Kohtak, is a tank which has never been fished, and which he is *certain*

holds many monsters and *none*—yes, gentle reader, he says *none*—under 20 lbs! and he is *certain* of it!

A kindly correspondent gives me the following localities :—

“There is very good trout-fishing at Chitor, a station 115 miles south of Ajmere, on the Ajmere Khandwa line. The river runs over a rocky bed with bands of limestone rock crossing at places, and running up large natural lakes. The trout are found in the rivers and small pools, and are very numerous and unsophisticated. They are accustomed to see people washing in the river, and do not much fear men. In the large lakes there are Mahseer, murrel, and the freshwater shark *Wallago attu*. The Mahseer do not run large, and are very difficult to catch—perhaps we are not sufficiently dexterous—in the large, deep pools. The largest I have killed was a little under 6 lbs. The largest pool, or rather lake, is nearly a mile long, and about 150 yards wide. At the lower end it is about 30 feet deep, and it is full of enormous fish which have utterly defied all our attempts, poaching and otherwise, to catch them. They come up and roll about on the surface of the water, so they are easily seen, but they go down again like porpoises, and give no chance of a shot. The largest I have seen appeared about 1½ feet broad across the back—I could form no opinion regarding his length—and looked like a small porpoise, except that the fins were regular fish fins, and of a reddish colour, and the tail was set vertically as in true fish.

“There is another good fishing place on the same railway at Maundsaur, 180 miles from Ajmere. There are plenty of Mahseer, which run up to 20 lbs. weight or so, but the largest generally caught would be 6 lbs. It is necessary to walk down the river about two miles, as the natives do not allow fishing near the city of Maundsaur. Another good place is at the crossing of the Nerbudda at the station of Newtakka. Here there are fine fish, but, as you say, they will take nothing but grain which is parched and bored as you describe. The bed is a mass of basalt rock, and the heads of the hexagonal columns have a very curious appearance from the railway bridge. The best fishing place is about half a mile down the stream on the right bank.”

BURMAH.

Mandalay.—Colonel H. has caught Labeo there, and has seen huge Siluroids brought in with mutton chops, soldiers' rations, in them, having been caught amongst the shipping.

Another correspondent caught white carp of 15, 13 and 11 lbs. in a tank fed from the Mandalay moat. The moat, he says, is full of Labeo, white carp, freshwater shark, murrel, and a deep silvery fish which is probably *Notopterus chitala*.

Chin Hills.—I am indebted to Mr. Whitehead for obtaining for me from Mr. Bigg-Wither the following note of fishing on the Chin Hills, the first notice I have seen of the fishing in that locality, though one felt sure that there must be Mahseer in those mountain streams. Mr. Whitehead writes that his correspondent tells him that the Mahseer there “scarcely ever take a spoon or spun bait, real or artificial, nor will they have anything to say to a worm, which Mr. Whitehead found so effective in the Nampoung River. I can understand,” he continues, “their not taking spun bait in the Manipur River, as I am told it is never quite clear at any season.”

If the anglers in these rivers that will not clear would try picketing live bait, as suggested in Chapter IX., and suitable tackle, they would probably take generally finer Mahseer; though they record some of good sizes.

The Peepul berry mentioned as the bait used is the *Ficus religiosa*.

“I started in a small river about forty miles north of the Kalémyo, Fort White road, named the Mánlón Choung, I believe, and in another about six miles south of it. The bait was the ‘peepul’ berry of red and yellow colours, and about the size of a smallish cherry. Thrown more or less as a fly, the splash attracted the fish.

“March 1st, $2\frac{1}{2}$ lbs., on atta; 14th, $4\frac{1}{2}$ lbs., on atta.

“April 15th, 1894. Twenty-nine Mahseer, 2, $1\frac{3}{4}$, 1, 1, 1, 1 lb., and the rest from $\frac{1}{4}$ to $\frac{1}{2}$ lb. Lost three bigger ones by cast breaking.

“April 16th, 1894. Morning, five Mahseer from $\frac{3}{4}$ lb. to 2 lbs.; afternoon, two fish, $3\frac{1}{2}$ lbs. and $\frac{3}{4}$ lb.

“April 17th. Morning, nine fish, 2, $1\frac{1}{2}$, 1, 1, 1, 1 lb., and the rest about $\frac{1}{2}$ lb.; afternoon, two fish, $\frac{3}{4}$ lb.

“April 19th. Morning, ten fish, 4, $3\frac{1}{2}$, $3\frac{1}{2}$, 2, 2, 1, 1 lb., rest small ($\frac{1}{2}$ lb.).

“April 20th. Morning, 3, $1\frac{1}{2}$, $\frac{1}{2}$, $\frac{1}{2}$ lb.; afternoon, 3, $\frac{1}{2}$, $\frac{1}{2}$ lb.

“April 22nd. Another stream. Eleven fish, 2, $1\frac{1}{2}$ lbs., the rest from $1\frac{1}{2}$ lbs. down to $\frac{1}{4}$ lb. Two men, using rod alternately.

“April 23rd. Two men, one rod. Eleven fish, 4, 3 lbs.; six fish of from 2 to $2\frac{1}{2}$ lbs., and three small.

“April 24th. Thirteen fish from $1\frac{1}{2}$ down to $\frac{1}{4}$ lb. (two men). Sometimes sinking bait (peepul berry) to bottom and letting it stop there caught fish. We had only one rod out with us; many fish lost through gut breaking.

“1895. March and April. A few fish from 2 lbs. down in Manipur river on atta. Colonel Keary caught about half a dozen, from 18 lbs. to 6 lbs., on atta.

“March 20th. On gram thrown as fly in small river.

"April 20th. Sixteen fish, from $1\frac{1}{2}$ down to $\frac{1}{4}$ lb.

"April 21st. Sixteen fish, 3, $1\frac{1}{2}$, 1, 1, 1 lb., and rest about $\frac{1}{4}$ lb. each.

"1896, March 3rd (?). Ten pounds, 2, 2, 1, 1, on boiled Indian corn and small hook; 12-ft. fly rod.

"March 20th (?). One fish of 20 lbs. on crushed sessamon seed mixed with atta. Twice broken. One fish ran out (150 yards) all my line, and broke at end, using strong salmon gut.

"April 12th. Ground nut fried and pounded and mixed with atta; about half of each. On trout rod, 12-ft. fly rod, $2\frac{1}{2}$, 1 lb., five small.

"April 13th. Bait ditto. On 12-ft. trout (fly) rod. Morning, three of $1\frac{1}{2}$ lbs.; afternoon, $1\frac{1}{2}$, $3\frac{1}{2}$, $5\frac{1}{2}$, $5\frac{1}{2}$, and 7 lbs.

"April 14th. 1, $2\frac{1}{2}$ lbs., three small.

"April 15th. $2\frac{1}{2}$, $3\frac{1}{2}$, $6\frac{1}{2}$, $\frac{1}{2}$ lb. Several times broken by heavier fish.

"From 20th to 23rd April, bait ground nut and atta, steel wire traces, 19, 14, 13, 9, $6\frac{1}{2}$, 5, 5, $2\frac{1}{2}$, and several of 1 to 2 lbs. Line broken five times by heavy fish.

"April 29th. A heavy fish ran out 120 yards of line, and wound line round a rock. Had to smash; besides, I went down stream about 300 yards with him.

"This is not quite a full record, but as near as I can give.

"G. H. BIGG-WITHER."

A fisherman helps me with the following knowledge of localities in *Burmah*.

As soon as he gets out again he—

"hopes to get some labeo out of the moat round the fort at Mandalay, and also out of the ponds in the Palace Gardens, where I know them to be numerous. In a small pond some twenty-five yards square (which I believe used to be the bathing place of Queen Soopyalat and her maids of honour), a warrant officer in the Ordnance Department (I believe he was) used to catch a great many. I saw one just after he had landed it, which weighed 29 lbs. There are several of these ponds in the gardens, all connected in such a way that the fish can move from one to another.

"I have no doubt that all suitable rivers in Burma contain Mahseer; in the Irrawaddy there must be some as large as 'dug outs.' I have only fished in the undermentioned, and only in No. 1 to any extent.

"1. *Nampoung*. In Bhamo district, thirty-two miles from Bhamo, easy to reach, and full of fish. Captain S. G. Radcliffe of my regiment (3rd Burma) got a Mahseer of 60 lbs. where this stream runs into the Taping river; this was the best of several good fish.

"2. *Namsiri Choung* (Choung = river, Burmese). In Bhamo district. Best fishing place is where river leaves the hills, about eleven miles from

Bhamo. We never got anything over 5 lbs. here, but the river is well worth an occasional try to anyone stationed in Bhamo.

"3. *Namlee Kha* (Kha = river, Kachin). This river rises, I believe, near Fort Harrison (Sadôn). I fished it where the Sadon road first crosses it. A Mahseer of 18 lbs. was the best I saw turned over, with a number of others, by a charge of dynamite in the spring of 1892, when the troops camped there required some fresh food. It is in the Myitkyina district.

"4. *Uru* River, in the Mogoung district. This river is not easy to get at, but should be tried by anyone who happens to be in the neighbourhood. When at the Jade Mines (Fort O'Donnell, Sankah [Kachin]), in 1891, we used to get a few Mahseer, and had we been well supplied with tackle would undoubtedly have caught a lot. I caught a few small ones with flies (small trout flies).

"I know of labeo only in Nos. 1 and 2 of above, but expect they are also to be found in the others. The rivers begin to clear the second week in September, and are for the most part in good order by 1st October."

He was also good enough to refer me to the following communication of his to the *Asian* of 20th April, 1894:—

FISHING WHERE TWO EMPIRES MEET.

"The Nampoung River, which at present forms part of the frontier between Upper Burma and the Chinese province of Yunnan, is a thirty-two mile journey from Bhamo, easily managed with transport in two days. On the side of the hill above the river valley is a small fort occupied from Bhamo, where a visitor, piscatorial or otherwise, is sure of finding lodging and welcome from the solitary British officer in command.

"The river averages about thirty yards in width, and empties itself into the Taping, a tributary of the Irrawaddy, about two miles below the fort. In this two miles there are a dozen splendid Mahseer pools, and the intervening water is almost all worth fishing.

"The Taping is unfortunately always coloured, or would be a grand fishing river. About two years ago there was a fine pool formed, where the Nampoung and Taping join, and R. of my regiment, who was here at that time, had three good fish out of it of 60 lbs., 50 lbs., and 20 lbs. Since then the Taping has changed its course somewhat, and the pool is spoilt by its muddy water. I have taken a few small fish there, the biggest 1¼ lbs., with worm, but have never been able to move anything with any spinning bait. In the Nampoung, above the fort, the fish run small. The best I have taken in that part was 2 lbs. 5 ozs., but the walking is very much easier than lower down, and there is no necessity for crossing the stream as often as one is obliged to among the big rocks below.

"My first stay here was from April to July last year, and the river was fishable up to the middle of June, when the rains came down in earnest and

spoilt sport. I regret that I kept no record of the fish I caught then, but the number was certainly not less than 450, of which the biggest scaled just over 10 lbs. My best day's bag I remember was forty-two.

"I have now been here since the beginning of the year, and up to the 31st of March have taken 319 fish, eighteen over 2 lbs., best fish $9\frac{1}{2}$ lbs., remainder of all sizes from 3 or 4 ozs. upwards. I was out on thirty-two days (not always fishing all day by any means), which gives an average of ten nearly a day. I have only three times got more than one fish over 2 lbs. in the day's fishing. On January 1st, out of eight, one of 6 lbs., one 3 lbs., and one 2 lbs.; on January 3rd, out of nine, one of 3 lbs., and one 2 lbs.; on February 1st, out of nine, one of $9\frac{1}{2}$ lbs., and one 7 lbs. 9 ozs. These last two fish I got immediately one after the other at the head of the same pool.

"From the above it will be seen that the fish here, though plentiful, do not run very large. I doubt there being any over 15 lbs. in the river, but with a light rod anything over a pound gives plenty of sport, for they are as game as, if not gamier than, any trout. I only once caught a big trout, that was one of $3\frac{1}{2}$ lbs., in an Irish lake, and he certainly had not half the dash of many a smaller Nampoung Mahseer.

"There are at least eight kinds of fish in this river. Of these *Barbus Tor* is by far the most numerous and sporting. All the others, I regret, I cannot name. Perhaps some of them may be identified from the following descriptions :—

"1. A fish with four feelers, very like *Barbus Tor*, but with smaller mouth and more silvery colour; fins strongly tinged with red. I did not get a specimen over 1 lb. A day's bag would comprise one or two of these, weighing as a rule from 4 to 12 ozs. I never took one of these fish with spinning bait.

"2. A fish with two feelers (I forget whether on upper or lower jaw) resembles *Barbus Tor*, but the golden sheen brighter and more metallic, mouth bigger and less leathery, body shallower—a very handsome fish. I have only caught three of these, about $\frac{1}{2}$ lb. in weight. They are less bony and better eating, I think, than *Barbus Tor*.

"3. A small fish, the general colour of a murrel, covered with egg-shaped black spots. It has a very small pointed mouth like an eel's, adorned with many (I forget how many) feelers. I have only caught one of these in this river, about seven inches long. Judging from this one, a big specimen of the kind would give very good sport.

"4. Exactly similar to, and probably only a variety of, *Barbus Tor*, but with first spine of dorsal fin serrated. I caught three or four of these in the dirty water of the Taping.

"5. Chilwa, a small sort not exceeding four inches in length, a bright silver with vertical dark slashes, or occasional horizontal pale green lines, on the sides. These make a very good bait. They take a fly readily, and I have caught them sometimes on a No. 1 spoon thrown as a fly.

"6. Murrel. I have never caught these here, but saw two small ones about five inches long taken by the natives (Kachins) in a casting net.

"7. A labeo of some sort. I caught one small one last summer with worm. One other that I got on March 15th last of 6 lbs. 2 ozs. was foul hooked on the off pectoral fin. I thought at first it was a monster Mahseer, but it made no first rush to speak of, and played altogether differently, spending its time moving slowly but strongly about the bottom. It took about half an hour to land, and the top of my rod broke off clean at the ferrule just at the end of the struggle. By a great piece of luck the hook held, but fell out as soon as the fish was in the landing-net, a minute or so after the breakage. The pool this labeo came from is full of them, many of a good size, up to twelve pounds I should say. Just about sunset they move about near the surface, often showing a broad back out of the water. At this time of the day, too, they rise as if they were taking something from the top of the water, but I have never been able to see what they were after, and am inclined to think that the pretended rising is only a part of the evening entertainment, and has nothing to do with the evening meal. I should much like to know how to catch these fish in a river, for they are decidedly worth catching. Except in the case of the little one first mentioned, I have not caught any fairly; the foul hook must have been an egregious fluke, and cannot count. I have tried them with paste of rice and of atta without avail. Thomas, in the '*Rod in India*,' only says he had no luck with labeo in rivers, but I imagine they are to be caught if one only knew how.

"Besides the above fishing with worm one gets an eel here occasionally in the quiet water—beasts with very small mouths, and ventral and dorsal fins extending to the tail.

"At this point I must confess that the much-despised worm has been responsible for nearly all my fish here. I gave spoons and spun dead bait a fair trial when I first came here, and use them now occasionally, but whether it be from my want of skill in spinning, or from some other reason, the worm in my experience is far the most paying bait for this river. A cricket is nearly, perhaps, quite as good, but crickets can only be procured in any numbers in May and June. A grasshopper is good sometimes. I know a good many men are of opinion that anybody, fisherman or no, can put a worm on a hook and forthwith catch fish galore. This is assuredly not the case, not even as far as putting on a worm goes. Others say that it is dirty work. Well, it is; the virgin whiteness of one's hands is somewhat sullied by meddling with worms, but if this matters there is generally sufficient water in the immediate neighbourhood of an angler to render an occasional wash the simplest matter. Catching Mahseer spinning is the nicest method undoubtedly, but catching them with worm is better than not catching them with a spinner, and is of itself a very pleasant sport. I have used here continually a 12-foot fly rod, not too whippy, a light line and single trace of stoutish gut, both for spinning and worm; nothing bigger is necessary. Some anglers will get all the exercise possible, and, to my mind, more than

enough; they prefer, therefore, a two-handed rod and tackle to match. This, as I say, is not necessary in a small river. A Mahseer's first rush set down takes him out of the pool he lives in, but big or little rod is a matter of taste about which, proverbially, 'it is not meet to be disputed.'

"Anyhow, the fishing in this river is right good for anyone who is contented with less than monsters, and a month's leave could most pleasantly and profitably be spent here by any fisherman happening to be stationed in or visiting Upper Burma, who has no good river nearer him; nor is this the only river in the Bhamo district which holds fish to be caught. There are many all about the Kachin hills. This, however, is the best I know comfortably get-at-able in a short time.

"There is no shooting here in the near neighbourhood, as the hills around are covered with jungle thick as the 'lush and lusty grass' in a hayfield at home before mowing time. A very lucky persevering gunner might get a shot at a panther, sambhur or barking deer, or even a tiger, for they are all about the place, as their tracks here and there by the riverside testify. I have shot a jungle fowl and quail or two, and two partridges of the sort called by Hume and Marshall 'Indo-Chinese Bamboo,' I think. But the fishing is the thing; it is worth all the physic in the world, and almost makes up for the want of society to the solitary man stationed here. Long live *Barbus Tor*! May he increase and multiply, and die game when his time comes.

"EARTH WORM."

BENGAL.

Extract from the "The Field" of 9th October, 1869.

"Having had some excellent sport, Mahseer fishing, in the previous years, A. and I determined upon seeing what the capabilities of the Poonch river really were. A trip of this kind of course requires considerable preparation in a country away from tackle-makers, and where gut rots almost as soon as it arrives. Strong lines also are absolutely necessary; they must be two hundred yards long, and have a reel capable of holding that length. We knew by experience how fatal these monsters were to tackle—even treble gut—and to hooks, which they managed to break, bend, or straighten in a most mysterious* way.

"We were prepared and equipped for a start on March 1st, 1867, and had our Murree cart at the door for our sixty-mile drive, which we accomplished in five hours. These carts reflect great credit on Mr. Faichnie, Inspector of H.M.'s Mail at Rawul Pindee, who invented them. They have four seats, back to back, fore and aft, placed just above the axle-tree. The shafts run through the whole length of the cart, which is substantially built, and has the centre of gravity so low that it would be next to an impossibility to overturn it. Two horses are always used, one in the shafts and the other

* See remarks on compression, pages 48, 52, 270.

attached to an outrigger ; and keeping the horses at full gallop is by far the most comfortable motion for passengers. Nothing can be simpler than the harness. One horse carries a saddle to support the shafts, a crupper, and a padded chest strap, to which are fastened the traces ; and the other has merely the chest strap. Horses are changed every six miles, and, as the coachman blows his horn as soon as he gets within earshot of the changing place, two fresh horses are ready by the time the cart is brought to a standstill. Two minutes effect the change, and off the cart is again at a hand gallop. A fifteen-mile ride from the trunk road, where we left the cart, took us to our destination, the junction of the Poonch and Jhelum, about twenty miles north of the town of Jhelum.

"The Poonch rises in the Pir Punjal, a Himalayan range to the south of the Kashmir Valley, and after a course of 120 miles or so, falls into the Jhelum. In spring time the Poonch is about the size of the Tweed at Coldstream, but the pools are deeper, and the streams more rapid ; I fancy they run about a mile an hour quicker than in the Tweed. We reached our camp about five in the evening in high spirits, the weather looking very promising, though the water was lower than we quite liked. Our tents were pitched close to the junction. Our servants had all arrived, and were busily preparing dinner ; so we employed our time in putting our rods together (Irish rods, preferable to all other when ready, but troublesome to put together), and strolled up the river to view the scene of our exploits of the previous year. As fishing from a boat was more effective than wading, we were made a little anxious by the non-arrival of a native boat from some six miles up the river, as we had sent a man for it several days before.

"Early to bed and early to rise was the order of the day, and next morning we were both up by daylight. A. commenced fishing in a grand deep pool, with a high bank on one side, and I began at the junction a quarter of a mile below him. Neither of us had even a rise ; so at nine we returned to breakfast, and after our meal, to our great delight, the boat appeared in sight. It was a huge, cumbersome, flat-bottomed, square ended machine, with two enormous oars, roughly hewn out of a tree. We had two men for each oar, besides a steerer. We were soon on board and at work. My third try with spoon in the pool was successful, hooking a fish of 30 lbs. or so ; but after playing him for some minutes, and just as I was about to land him, a swivel broke, and he was seen no more. When I had somewhat recovered my equanimity, I began again with a phantom minnow, about the size of a $\frac{1}{2}$ -lb. fish ; hooked another, and had him a short time, when, after a vigorous run, the rod straightened, the line slacked, and I discovered the hooks drawn, an instance of how silk and cobbler's wax dry up in India. No sooner had I put on another phantom than I lost it, and a whole casting line, by fouling a rock. This last disaster most effectually disgusted me, for our supplies of phantoms, lines, etc., though very ample, could never last at my rate of expenditure. However, I persevered, and our bag for the day consisted of five fish, of 35 lbs., 29 lbs., 17 lbs., 7 lbs., and

3 lbs. respectively, which was not bad, as we had not a rise before three in the afternoon, and it was dark by six. The water was rather thick, especially in the pool. At dinner we discussed the failures and successes of the day, repaired our damaged tackle, devised fresh schemes for capturing the wily Mahseer, and then turned in, so as to be up and ready by daylight.

"Our custom was to fish from daylight (about half-past five o'clock) till nine or ten, and not start again till between two and three, when we fished till dark. Our time between breakfast and our start in the afternoon was always fully occupied in repairing tackle, whipping fresh hooks, or making entirely new lines, so that the time never hung heavy on our hands.

"Next morning A. tried the junction with fly, as the water was somewhat clearer, but without success. At times, however, Mahseer rise well; by far the most deadly fly—indeed, the only one that appears to tempt them—was Madras jungle-cock feathers in the wings; if with silver body all the better. While A. was wading at the junction I fished from the boat in the pool, and landed one of 18 lbs. Shortly afterwards we changed places—A. fished from the boat, and I waded. I first tried fly, but not getting a rise, put on a phantom. Hooked one, played him for some time, and lost him; so then, as it was quite breakfast time, I walked back to camp, where I found A. in great glee, having just brought home a splendid fish of 40 lbs. In addition to this monster he had hooked five others, all of which got away. As the day turned out cloudy, and our keenness was redoubled by the sight of the 40-pounder, off we started soon after breakfast, and made a brilliant beginning by landing a 36 lbs. and 40 lbs. between us. Then came a lull, and we did nothing till the afternoon was well advanced; then we had sport indeed. On our return to camp there were laid out before our admiring gaze, as the result of our day's sport, seven fish, of 44 lbs., 40 lbs., 36 lbs., 18 lbs., and 14 lbs., making a total of 210 lbs.—a feat as regards actual weight for number of fish seldom, if ever, surpassed in rod fishing, and as regards sport certainly unequalled. I have never seen salmon run as vigorously or as long as these fish; they are game to the backbone; and, bearing in mind that we were fishing with treble gut, it will be seen that their powers of endurance are very great, for I never spare my fish—in fact, I fear I lost some by being over severe with them. During their run they take out the line so very quickly, that one has the greatest difficulty in preventing it from hanking on the reel, in consequence of the bar on which the line is wound revolving after the fish stops running. At first I fished with reel and rings under the rod, but I found that did not answer, as some of the rings were cut through in a couple of days by the friction of the line; so I was speedily converted to the Irish fashion of reversing the rod as soon as a fish was hooked, thereby having the reel and rings uppermost, and so placing all the strain and friction on the rod itself. Another advantage was, that by so doing one was enabled to prevent the line hanking in the reel by pressing one's fingers against the line. This plan was effective, but not always agreeable, as I found to my cost, occasionally having had the tips of

my fingers blistered. While on the subject of reels, I might mention that no reels of English manufacture that I have ever seen have hard enough metal in the cog or cog-wheel of the check. I was using on this fishing expedition a new reel of Farlow's, and in six days the teeth of the cog-wheel had almost disappeared, the space between the plates being filled with brass filings. In a reel intended for Mahseer fishing, all the parts that have to bear friction should be made of well-tempered steel.

"At sunrise next day I again tried the pool, but did not even get an offer; so I strolled up the river, attended by my shikari, who, by-the-bye, was quite new at this kind of sport. He took to it very keenly, however, and soon became very handy at landing fish, which was done in a way rather surprising to a man accustomed only to the gaff or landing-net. When the fish is nearly exhausted, the man walks quietly into the water, gets behind the fish, gently runs his hands along his back until they reach his gills, then slips his thumbs into the gills and lifts the fish out of the water. This mode of capture sounds very simple, and it is so if the fish does not see the man; but if he does, off he goes for another run. Mahseer have no dread of being handled; they keep perfectly quiet during the time the man runs his fingers along their back, and even remain motionless while the hook is being taken out, as long as they are held up; but no sooner are they placed on the ground than they commence kicking and jumping in the most violent manner.

"When I had walked two miles I came upon a very lively-looking piece of water by some mills, which I fished diligently with fly, spoon, and phantom till I was pretty well tired out by the exertion and the sun, which was well up by this time; and the day promised to be very hot. So I turned homewards; and when I had finished my two-mile walk over boulders and deep sand, I was quite prepared for my breakfast, which I found all ready, and A. very anxious to begin. His morning bag was but little better than mine, for he had only succeeded in landing an 18-pounder. In the afternoon, when the day had got a little cooler, we set to work again. I took a few casts in the pool, but stirred nothing, so went down to the junction. Here the Poonch divides itself into four or five very tolerable streams. I fished them all with every conceivable bait, but the only result was a miserable 3-pounder, and that I hooked by the stomach. A., however, was much more successful. He had resolved to persevere in the pool, and by so doing was rewarded by landing two, of 14 lbs. and 38 lbs., but, with his usual bad luck, lost an enormous one. He had played him for more than half an hour up and down the deep water, when he lost him by the hooks drawing.

"Though, for some mysterious reason, I never had good sport in the early morning fishing, still I was up again next morning by sunrise, and we both tried the pool from the boat; I literally did nothing—did not even stir a fish; but A. landed one of 19 lbs. At 3 P.M. I went up the river and fished the head of a small pool, with a glorious stream running into it,

close by some jutting rocks. Here I landed a 4-pounder and a 22-pounder with phantom and spoon. I then tried a stream a little higher up. I suspect the water was rather too heavy—at least, I stirred nothing; so having given the lower stream an hour's rest, I returned to it, and put on a natural bait. I soon hooked and landed one of 14 lbs., when I put on a fresh bait, intending to have a few more casts before it got dark, it being then a quarter to six, and rather cloudy. The bait had just come across the stream and was entering the backwater, when I felt a vigorous tug, and a monster rushed off down stream, with nearly 100 yards of line before I managed to stop him.* Then he tried a run up stream to nearly opposite where I was standing, then down again, then opposite me again, but on quite the further side of the river, and there he sulked for the best part of an hour, all of which time I was keeping a very severe pull on him. Unfortunately, I was fishing from a point of rock, and on my left hand, down stream, was what is best described as 'a long bay' of dead water, 50 yards or so across, and between it and the stream was a bar, consisting of huge rocks rising to within 2 feet or 3 feet of the surface, but with intervals varying from 2 feet to 6 feet between them, so that getting below the fish was quite out of the question. At last I managed to move him, and he dashed down stream 70 or 80 yards, and sulked there. Now commenced my task. I soon found that merely keeping a steady pull on him had no effect, especially as he was now below me. The pressure I kept on him was so great that attempting to wind up line simply caused the line to sink between the coils already on the reel; so my only plan was to draw in an inch or so of the line with my hand, and then wind it up on the reel. By dint of perseverance I succeeded in getting him up to within 20 yards or so, and then not another inch could I gain; but I managed to rille him apparently, for off he rushed to the bottom of the stream again. Of course by this time it was pitch dark, or else I should have been tempted to try and effect a passage across the bar, with the almost certainty of going in over head and ears. As it was, prudence carried the day, and I sat down on a rock, put the butt of my rod between my legs, and lit a pipe. I then sent my fisherman off to camp, about $2\frac{1}{2}$ miles over very rough ground, to order some dinner to be brought out, besides dry shoes and socks, and a great-coat. By the time the welcome sight of a lantern appeared it was near ten o'clock, and all the time I had been fighting for every inch of line. There was a splice in my line, and the struggle I had to get it on the reel is almost incredible. Time after time I felt it pass through my fingers and just reach the reel, when the fish would shake his head, and pull it half-way down the rod again.

"After some little delay in collecting sticks and lighting the fire, I managed to make a very tolerable meal, keeping a tight hold on the line with one hand while I used the other for dinner purposes. Feeling much

* This goes to support my idea that 120 yards is enough. See Chapter XX., pp. 284, 286.

refreshed by my hasty repast, I devoted all my energies to my enemy with redoubled ardour. After one or two runs, I fancied there appeared to be something wrong with the reel, so, calling for a light, I examined it, and found to my discomfort that the two screws which connect the reel with the bar that was tied on to the rod were gone, and, of course, on the same side as the handle ; the consequence was that the mere act of winding up caused the reel to gape very considerably at this opening. I tried various methods for remedying this mishap, such as getting my fisherman to hold it as firmly as possible in his hands while I wound up line, etc. ; but I found none of them so satisfactory as crossing my legs as I sat on the rock, and pressing the reel against my left knee. This answered tolerably well, but it was a somewhat awkward position to remain in for long. To make a long story short, however, about 2 A.M. I prevailed on my fish to cross the bar and have a swim in the deep, still pool. He gave two furious runs up and down, I luckily just preventing him from returning to the stream, and then I hauled him into a nice little shallow creek. The fisherman carefully handled him, and he was secured. I made my man carry the captive some yards from the water, and deposit him in a safe place, and then a most pleasant sensation of triumph filled my heart, as by the light of the lantern I gloated over the splendid fish which had fought so bravely and pluckily for eight hours and a half. By this time it was 2.30 A.M., so my servants shouldered the fish, pots and pans, and we started off home, floundering about over the two miles and a half of boulders and shingle in pitch darkness, as the lantern had burned out. On arrival I, of course, routed up A., and we weighed the fish. He just turned the scale at 52 lbs., and was 4 feet 5½ inches in length, which I must confess rather disappointed me, as I had landed in the previous year one of 57 lbs. that had not given anything like the sport of this one.

"A. had most patiently waited three hours for dinner, and then in despair sat down to his solitary meal. My fisherman's appearance with my dinner order was a great relief to his mind, as he was on the point of sending out natives with lanterns to search the banks and pools of the river, fearing that I had been carried down a rapid and stranded in some uncomfortable place, even if nothing worse had occurred.

"On the following day we did not start till twelve, and had very poor sport, only catching one of 7 lbs. each—attributable, I think, to there having been a thunderstorm in the hills during the night. We had serious thoughts of moving our camp a few miles up the river.

"Two friends arrived next morning in time for breakfast ; though we had fished in the early morning, we had bagged nothing. In the afternoon I went 3 miles up the river, and caught three in a beautiful rocky stream, losing a phantom ; then, finding that a small boat we had ordered from higher up the river had arrived, I tried a deep narrow pool from it. I soon hooked a fine fellow, certainly over 14 lbs., played him for nearly an hour, when he sulked ; and, as no amount of stone throwing or pulling would

move him from his position behind a big rock, I got into the boat to go across. That started him, but unluckily he passed a sharp rock, and cut the line. This drove me nearly frantic—not only losing the fish after having played him for so long, but on account of its being the second phantom I had lost that day; and besides, if I had only had a little more patience, and not crossed the river, I probably would have bagged him. Afterwards I caught four small ones with spoon. A. had a blank day, but one of our friends, M., landed a 24-pounder.

“Our next five days’ fishing was much in the same style as I have described. We moved our camp some 3 miles up the river, between two pools. Every day we made good bags, averaging about 100 lbs. a day. A. was always very unlucky with big fish; somehow, they invariably came to me. Once a 43-pounder that I had hooked, after a good deal of play, sulked in a most determined way; nothing would move him. Bearing in mind how my line had been cut a few days previous, I was very patient with him, but it struck me as being rather odd that I could not stir him at all. So at last A. went over the place in the boat; and, finding that the line was round a rock, he very cleverly cleared the line. Luckily, the fish was nearly drowned, and became an easy capture; but, from the amount of slack line that flew back in my face the moment the line was freed, though I was running back from the shore and winding up as fast as I could, that very disagreeable sensation of ‘He’s off,’ which every fisherman must know, came over me. In this instance, however, my alarm was groundless, as the fish still proved to be on. Another day I lost a fine fish, that I had played for the best part of an hour, and had completely tired out, by a swivel breaking, making the second good fish lost in that way.

“The accompanying table shows the particulars of each day’s sport :

March.	Respective weights of fish in pounds.				Number of fish caught.	Total weight. lbs.
2nd.	35, 29, 17, 7, 3 (lost 3 fish)	..	..	..	5	91
3rd.	44, 40, 40, 36, 18, 18, 14 (lost 6 fish)	..	..	..	7	210
4th.	38, 18, 14, 3 (lost 3 fish)	..	..	..	4	73
5th.	52, 22, 19, 14, 4 (lost 2 fish)	..	..	..	5	111
6th.	7, 7 (lost 2 fish)	..	..	..	2	14
7th.	17, 16, 10, 8, 3, 2 (lost 3 fish)	..	..	..	6	56
8th.	30, 18, 10, 8, 5½, 3, 3, 2, 2, 1 (lost 3 fish) ..	..	..	..	11	84
9th.	25, 24, 18, 16, 11, 10, 8, 8, 8, 7, 7, 5, 4, 3 (lost 2 fish)	..	..	..	14	154
10th.	43, 28, 24, 18, 11, 9, 8, 8, 7, 7, 5, 14, 4, 3, 3, 2, 2, 2 (lost 4 fish) *	..	..	..	18	221
11th.	33, 13, 10, 7, 5, 5, 4½, 4, 3½, 3½, 2½, 2 (lost 3 fish)	..	..	..	13	98
12th.	30, 3	..	..	..	2	33

* There is seemingly an error of 23 lbs. of detail here, as the totals of numbers and of weights agree with the 87 fish weighing 1145 lbs., and with the average calculated thereon in the next paragraph.

"In eleven days 87 fish were caught, weighing 1145 lbs; being an average of rather more than 13 lbs. $2\frac{1}{2}$ ozs. each.

"I hope I have been able to convey to your readers some idea of what splendid sport Mahseer fishing is in India, especially in a good river. For gameness and vigour the Mahseer, to my thinking, is superior to any salmon; his rushes are grand. His not taking fly as readily as bait is, of course, a drawback. A friend has landed a 63-pounder in splendid condition with fly; but still it is undeniable that a man fishing with bait, natural or artificial, will make a heavier bag than one fishing with fly only. As far as my experience goes, phantom minnows, natural bait, and spoon are all equally good, and I invariably gave them all a try over the same water. I used to weight my line very heavily, putting on at least the weight of an Enfield bullet, and to that* I attribute my catching heavier fish than A. The phantoms we used were at least 6 inches long. Big fish, however, have been landed with much smaller ones. The principal objection to the small phantoms is the difficulty† of being able to use hooks strong enough. My favourite spoon was the size of a dessert spoon.

"The sun in the day time in March is powerful, the nights are very cool—almost cold. The previous year we fished in April; even then living under canvas is bearable; but the great objection is not so much the actual heat as the constant dread of the snows melting, for when that happens an end is of course put to all sport for the season.‡

"Our two friends landed 339 lbs. of fish, but caught none of any very great size. They were fishing five days. In the previous year three rods (of which I was one) caught 700 lbs. in five days, averaging over $18\frac{1}{2}$ lbs. each, in this same river, the Poonch. In one day we landed 358 lbs.

"K."

Extract from the "Asian," of 2nd September, 1879.

"In most localities, it is quite out of the question going out in July, August, and September. The rain is one hindrance, muddy§ water another, fever, etc., a good third. The consequence is, no one ventures out, except perhaps once or twice during what should be 'close' time. The only true fishing months may, therefore, be confined to October and November, and from February to the rains.

* * * * *

"First, then, Mirzapore is the railway station, and thence some 25 miles

* Because the Mahseer is mainly a bottom feeder, and a great fish eater. See pages 45 and 46.

† This difficulty is got over by a hook made specially for Mahseer.—See page 269.

‡ Colonel Parsons has now shown us that we may still continue fishing by his method. Chapter IX.

§ This difficulty is now overcome. See Chapter IX.

down the Rewah road is a dak, or rather a road bungalow, to which, whilst I was stationed at Mirzapore, the courteous engineer never refused entry; supplies and servants must be taken, as no establishment is kept; permission to occupy the bungalow must be obtained. In the hotter months and rains the shelter is a necessity; and in the cold weather tents are preferable. The river, the Beylun, is about 300 yards from the bungalow, and the best fishing is just above and just below the bridge, an 'Irish' one. Here, on 11th October, my diary reminds me of the capture of a full 12 lb. fish, and with the recital I give the description of two flies used before the Mahseer was landed.

"It is four years ago now since I first camped at Buroundah, where the road bungalow is. The river had just cleared, and my bag with a medium-sized fly, yellow all round except a black feather tail, was three good fish, the largest scaling $3\frac{1}{2}$ lbs. This was encouraging, because I have been told I should get no fishing in the district. I changed my fly for one of a larger size, with a dark blue body, broad silver tinsel, no hackle, wing of peacock harl and 'ruffed' with buff-coloured silk. Three pools below the bridge I was into a good fish, but after the first rush the line came away slack. He had gone, quite a yard of good stout salmon gut and a good fly lost. It was late, so we (a friend had joined me) went back to camp.

"Next morning we shot. In the evening my double-handed trout rod, a beauty, with treble gut, was sailing a fly over the first pool under the bridge. The fly was a large one, as I now knew heavy fish were to be got, but until close on dusk there had not been a rise. Three good pools fished from both banks resulted in blanks, but I sat down and chose a fly as nearly as possible similar to the one I had lost, and soon felt myself safe in something good, I shouted with joy, and my chum S. soon came up. We had to light a lantern, and by its aid at last I landed my first, and, alas, my last 12 lbs. in the Beylun. Unhooking him, we found the fly he had carried off the day before firmly fast in him, and the gut trailing. I have never seen such a thing happen before. It was rather curious, too, that a fish should, after being struck the day before, remain about the same rapids; but I am one of those who do not believe the finny tribe are very sensitive about the mouth. I wish I could give coloured plates of the flies that are killing, but I cannot even draw. From Buroundah we returned to Lallgunj, and here a pretty fair bag of trout rewarded us. The little stream is 'little indeed.' Sometimes almost running dry, but half pound trout on a very light Castle Connel rod was not bad fun, and over six brace was our reward.

"Let us return to Buroundah. The rapids below the bridge end in a very deep pool and long one, full of alligators, but if you have time follow it down and you enter the Allahabad district,—famous for pig sticking, good for gaiety, and noted for a charming club and a charming secretary. Many runs have I had with him. I would they could be multiplied indefinitely.

But in those days we had a 'collector.' The 'glory' is departed; yet in good hands Allahabad will still show sport; I believe now is showing it.

"I have sadly digressed. As I have said, go below the big pool under the rapids of Buroundah, and from thence to 'Pathurpore' near 'Koolsara.' A 1 fishing, but the water must be clear, and the angler keep well out of sight; dark flies are the best, and I always used them. Let me describe one that will take splendidly. But why should I? 'The Rod in India' has christened it the Blackamoor.

"Then, again, we are now in the Allahabad district, Sohra to Khurkha is splendid fishing ground the whole way, and there is a place I do not quite remember, but think it is called 'Mai,' and is close to 'Kohrar;' here I caught my best fish in nearly still water, fishing just the break of the rapids; all these places are best reached, I think, from the wayside railway station of 'Sirsa.' Any friend in Allahabad could give information. The Beylun joins the 'Tons,' and the fishing from Sohra to Khurkha and at 'Mai' is on the Tons. In this latter river I was indebted to a brother sportsman for one of the best flies I ever threw. We had to make them up, and he showed me how.

"Body Austrian grey, silver tinsel, tail of two bustard feathers and wings of the same. It is a splendid fly, and I am much indebted for good sport to my friend. Here my experiences of Mirzapore and Allahabad end.

"DOON."

Extract from the "Asian," of October 14th, 1879.

"The next district I touch on is Jhansi. It is a fine sporting district, deer, hares, grouse, and ducks are plentiful. Snipe are not very plentiful, but still they are to be got with a little trouble. Leopards are very numerous, but owing to the rocky nature of the country not easily driven, and very wary. The fishing is excellent.

"I am not quite certain of the distances, but the Pahooj river runs about 3 miles from Jhansi, and holds some of the finest trout I have ever seen. The Babarie, about 4 miles on the opposite side, almost beats it, and the Betwa and Dessaun give fine Mahseer.

"Everything, however, in these streams must be taken at 'the tide.'

"The Betwa and Dessaun are raging torrents till October, and then you must be down and get all you can of fishing or the streams simply 'dribble,' and 'still-water' fishing is all that can be had. The Babarie and Pahooj clear rather rapidly, especially the former, and I hardly know prettier trout-fishing than the Babarie affords. As both these streams are minor ones, the best fishing is to be got in a break of the rains. I used always to go past the cavalry lines, through a gate in the Custom's hedge, and down to the stream where it cuts the Oorcha or Tehree road. Fish down stream. You get splendid fun. Do not despise the water because it

is rather sluggish at places, and does not *look* deep. Lower and about 4 miles from Jhansi off the Burwa Sagar road, is the best and deepest pool; but though there are numbers of fish in it, I do not remember ever to have taken there one good trout. No reason why others should not, but it was puzzling.

"Oorcha, the ancient capital of the Raja of Teekumgarh or Tehree, has a wall old and broken, in parts made of loose rocks and boulders piled up, and I fear to say of how many miles in circumference. It is 7 miles, probably. A Gazetteer would simplify matters. The ruins are grand. Here we had many a merry party, and many a jolly day. The Betwa runs close under the old temples, and fish are fairly numerous, though I have never seen one above 8 lbs. The rapids are splendid, and there is a dam below the old city, which was once unbreached, but has been neglected, and now has one or two rifts in it, and the waters pour through in wild disorder. Many a good fish have I taken there.

"Most successful was a fly I describe now. Body orange wool, gold twist, yellow tail and yellow wings, with a 'taste' of red on the shoulders. It is very killing.

"Another. Body dark yellow, tag of peacock harl, wings black with a few peacock harl in it. I found, however, bright English Salmon flies take well too.

"Then the country above Oorcha is splendid. The scenery all the heart could desire, and the Betwa winds through forest lands, now one united stream, and now through several channels, sometimes clear of trees, and more often bordered by them thickly. Fishing is grand, and so is it all on to the bridge over the Jhansi and Lullutpore road. I would like once again to camp up the Betwa's banks from Oorcha to the bridge on the road, and fish the old pool. Just above the bridge, too, is one of the finest pools in the river. It is a 'still' pool, and requires *fishing*, but has given good sport. I have given no fly for the Pahooj or Babaries, but here they are, and I am indebted for a knowledge of the first to a friend about those parts :—

"1. Body red, silver twist, wings black, tipped with white (the common Myna will furnish this or the turkey), hook rather small.

"2. The 'red spinner.'

"3. The 'black spinner,' with silver twist. I found gold twist answer too.

"The above are probably the best flies, but there may be others. My experience of Jhansi dates only over a year. There are others there who, if they would, could give better information. Then the Dessau. I hate the river! There are lots of fish in it, though I do not think so many as in the Betwa, but I never could get a bag out of it.

"The 'Ghat' off the road from Jhansi to Nowgong, about 38 miles from Jhansi, and 15 or so from Nowgong, is the place I would choose to try my luck. From thence one can fish some rapids about a mile and a half down

stream, and some two miles up stream, besides what fishing one could get immediately above and below the Ghat itself. Very fine trout are to be had above and below the 'cold weather' bridge. There is a good pukka road from Jhansi to Nowgong, and on both banks of the river, bungalows, permission to occupy which has never, to my knowledge, been refused.

"Then there is Mow, near Raneepore, about 30 miles from Jhansi, and 8 miles from the Ghat. You *must* pass Mow, if my old friend will let you get to the Ghat, and there, though there *is* a dak bungalow, with a 'call' or without one, the chances are you will not be allowed to occupy it, but be most hospitably entertained, and *welcomed* by as good-hearted a man, and as jolly a sportsman as ever stepped. What is more, he would beat most fellows into 'fits,' with a gun, and just pride himself on showing you the best sport to be had all round his place, so one cannot do better than visit Mow, if thereabouts.

"Chirgaon is about 18 miles, if I rightly remember, from Jhansi, on the Jaloun road. There is here a road bungalow, but the good fishing ground on the Betwa, which is about 3 miles from Chirgaon, is at and about a place called Goolara, some 3 to 4 miles on the Jhansi side of Chirgaon.

"The fishing from Goolara to Dhunna is magnificent but you must 'tent' it, and remember, that though your 'rises,' and probably 'takes,' will be numerous, the fish will very seldom exceed 7 lbs. I do not remember ever trying *spinning*, but from what I saw of fish in the pools from high banks, my impression is, they do not run to any greater size in the rivers of Jhansi and Lullutpore than 12 to 15 lbs. My experience of these districts is respectively about a year each, and therefore I am open to correction, but I think that the instances of fish caught over 10 lbs. (Mahasir) are rare. But after all, there is more fun and greater enjoyment in playing a 10 lb. or 6 lb., with a light rod and fine tackle, than *working and worrying* on for a big fish with rods and tackle that might be described as 'Piscatorial Woolwich Infants!' No more now from yours. DOON."

Mr. G. Sanderson tells me Riawalla near Hurdwar is the place of places to go to in January. That it is not so good in February, and useless in March.

Extract from the "Asian," of 28th October, 1879.

"It is best now to journey up country, and before going elsewhere, let us take the Eastern Doon. Many know it well, and will remember happy hours along the banks of the Ganges, the Song, and the Sooswa.

"The Song flows behind the Kalunga Hill, once crowned by a fortress, famous for its defence by the Goorkhalies. From Dehra you go to Kalapani, and thence over the hill to a tributary stream, following which down its junction with the Song, gives the first pool I have tried.

"Here in August, September, and a part of October, good fish are to be taken, up to 8 lbs., at any rate, though larger are in the waters, and may be got by spinning. I once saw a fish certainly over 30 lbs. in this stream, but nothing would tempt him.

"All down the Song the fishing till October is good, but after that there is but little water in it, and, indeed, it almost dries up altogether.

"The Sooswa flows past Kansaras, a place once famous for all kinds of game, but now its glory has departed. Fine Trout and Mahseer fishing is to be had all down the Sooswa, and where the Song and Sooswa join is a splendid pool with heavy fish.

"Jamun Khatta, below the junction, is well worth staying at. Good Trout and good Mahseer, and plenty of them. Down the river some few miles, you get to the junction of the Sooswa and Ganges, and here are splendid fish, as large as any river in India can furnish; but here spinning pays best.

"Up near the hills, where the Ganges leaves the Himalayas, is Tuppobun, with its splendid scenery and grand pools. Lower down, Rickee Khase, with equally good water, and so on, till you come to Hurdwar, with its 'Myapore Bridge,' the 'Bund,' and 'Dam,' all well-known ground.

"The fish, though, are getting more and more shy, and it is not always that a 'bag' is to be made. Under the Myapore Bridge, hundreds of swallows have their nests, and many a large fish has been caught with a swallow, or rather martin (as I believe they are) tied on to a hook, and used as a bait.

"I rigged up a very large hook in imitation of a swallow, and tried it years ago, but only bagged one fish. They do not seem to take freely now. The 'escape' (I called it the 'Dam') is a fine piece of trolling water, but one has to be careful spinning, as there are 'snags,' or were—I speak of days long ago.

"Below Hurdwar is Kunkhal, but unless the escape is open, few fish will be risen, though lower down the pools deepen, and just above the bridge of boats at Jheesumwalla Ghat, in one morning before breakfast, I happily landed two fish over 20 lbs. each, and three others, none under 10 lbs.; a good morning's work!

"Lower still, down towards Asufgurb, one day's bag reached 146 lbs., the best fish weighing 27½ lbs. This water is splendid fishing, and once again may I tread its banks. Further down yet Mahseer are to be got, but only one ever rewarded my efforts with fly. Bait fishing must be resorted to. The places to fish are the 'Kooties.' Fakirs build themselves small habitations on the Ganges, and they generally wash their grain in the river, even if they do not throw the remnants of their dinner into it; but often they *feed* the fish, and a hook baited with atta is sure to give sport.

"But at the Ghat, over the Ganges between Bijpore" (or should it be

Bijnore?) "and Meerut, another kind of sport may be had—very exciting in its way, and hard work too.

"When the bridge is 'up,' in the cold weather under the oldest boats, the 'gonch' may be seen clinging on by feelers to the bottom. It struck me they could be *spear*ed, so a friend and myself sent down our canoes, armed ourselves with barbed spears, made so that the heads should *slip off* the handles, and drove down to the Ghat. The spear heads had about 20 yards of stout cotton string attached, and to the end of the rope an inflated (bullock's) bladder. When we saw the gonch, the spear was sent 'home,' and the shaft withdrawn. The fish at once went off, and the bladder keeping on the surface showed his course. We followed in canoes, and taking extra spears, gained the bladder and pulled up our prey, finishing him as best we could. One morning my friend and myself killed three gonch thus, all about 80 lbs. If this sport can be got at one bridge, I see no reason why not at every one on the Ganges and Jumna, and other streams too, for gonch abound down country, but I must say I have never tried it anywhere else but at that one bridge.

"Mahseer are to be got down the canal too. The falls towards Roorkee are good places, and especially to Puthri Bridge. Here, trolling with 'Chilwas,' I have caught 18 lb. fish, never anything larger. But Mahseer are to be had lower still. In the Meerut district under the falls, I have taken them with the *fly*.

"Mahseer have been taken, too, with bait at Fatigarh and Cawnpore, and lower, I believe; but at the two places named, I have *seen* them caught.

"At Bijpore, and at all the bridges lower down, the butchwa take the fly freely, and are to be taken up to 2 lbs. in weight. A dark fly seems the best.

"DOON."

Extract from the "Asian," of December 23rd, 1879.

"Fishing in Laour.

"I have just got back from Laour, where I went on a fishing trip, and had very fair sport.

"Extract from my diary :—

November	19th,	got nil,	lost 4 fish.
"	20th,	" 1,	lbs. 19, lost 3.
"	21st,	" 2,	" 30, 36.
"	22nd,	" 6,	" 46, 31, 41, 25, 13, 12.
"	23rd,	" 2,	" 44, 30.
"	24th,	" 2,	" 24, 32.
"	25th,	" nil,	gave the good pools a rest, and tried some new water.
"	26th,	got 3,	lbs. 18, 58, 55.

November 27th, got 3, lbs. 29, 29, 62.
 „ 28th, „ 8, „ 16, 54, 20, 33, 7,* 32, 33, 26.
 „ 29th, „ 2, „ 28, 26.
 „ 30th, „ 1, „ 28, tried new water again.
 December 1st, „ 1, „ 21.

“Of course, besides these fish, I lost several, of which I kept no account. I got them all trolling with spoons 4 inches long. I tried the fly, but without success.

“The river is called the Punateet, and runs out of the Khasia Hills at Laour. To get to it, you have to branch off at Soonamgunge (on the Soormah) and go by boat to a village called Elamgao, here you can get dingies and boatmen to take you up the gorge where you must rough it in a grass hut. It is a beastly unhealthy place. Every time I go there, all my servants are knocked over with fever. I got it once myself, but on that occasion I was there for six weeks.”

Extract from the “Asian,” of 25th May, 1880.

“Fishing from the Simoor Territory to the Nepal Boundary.

“I have fished all the rivers in this tract, except the Sarda, which is the Nepal boundary.

“To begin : On the west, there is the Bata stream” (query Giri) “that runs from below Nahan to join the Jumna at Bata ; about 1 mile from the junction up stream are two holes that used to be capital fly-fishing places. I have known 80 fish taken with a single rod in one day out of these two holes. My largest take from there was 36 fish, but I only tried for the larger ones. I once saw a 6 lb. Mahseer caught there with *atta*, but from 2 ozs. to 2 lbs. is the usual thing with fly, and both Mahseer and trout are caught. The trout (so called) is also a species of carp, but he is a very game, handsome fish ; occasionally fish of other sorts are caught that look like roach.

“We used to have our fancy flies, but I am of opinion that Indian fish generally take a fly in mistake for a young fish or fry ; I say generally, as I have seen them taking an insect often such as locusts, larva of insects, and flying ants.

“Red and black palmers are favourites, and a sort of red palmer with a tail is my especial. He is made of a single hackle feather of the jungle-fowl or red game ; that and a black one and a fly with white body, dirty yellow tail, and floricane or houbara wing.

* “I never saw a Mahseer like this before. Back and fins perfectly black, a game little head, and very thick through. He astonished me, as before weighing him I took him for a fish of about 4 lbs. He fought like a little devil, and showed as great a disinclination to be landed as other fish of 12 or 15 lbs.—L. J.”

"The Jumna is a splendid river for fly or spinning. I have been told that pure white and pure yellow flies are the best in this river, but I have found the ordinary* ones do very well indeed. This river seems a favourite one for Mahseer; when the dirty water of the melted snows comes down in May, making the Jumna as dirty as the Thames, large bags are made. The river is shallow in the parts mostly fished over, and perhaps the fish see the lure more readily than in deeper streams. The old town of Simoor, said to have been deserted 1000 years, is on the banks close to the lake. Portions of the paved streets and many gods, etc., are still to be seen lying in the jungle. The Jumna is a good river for monsters. The Tons very bad fishing always. I have not gone in much for the big river fishing, as to be successful, you must have Mullahs with Senai's (inflated skins), and I never fancied this mode of fishing. The Arson has yielded many fish to my rod, and all with fly. I prefer the first and last-mentioned fly for this river; up to 5 lbs. is the usual weight, but fish of 15 to 20 lbs. have been caught in it. Snipe are very fond of the edges of this river when going up or down country. I have forgotten the large fish at the Pounta temple on the Jumna; they are to be had with *atta* I believe. This is a Sikh temple, and so is the Gurse Dwam at Dehra. A large trout $4\frac{3}{4}$ lbs. was caught in the Arson, near the mouth, when I was there; it was the largest by $1\frac{3}{4}$ lbs. that I have ever seen.

"The Suswa is a splendid stream for fly, and also the Song. I have taken many dozens out of these two streams, the average of a good day in the cold weather, is from 15 to 25 fish, average 1 lb. each. I once bagged in one hole 18 trout, averaging nearly a pound, and one small Mahseer; 5 lbs. is about the largest one can hope for, until May, but during May and June, large fish are caught in both streams, but fever is said to be very prevalent in those months. The Song is the only decent-sized stream I know of in these parts that is not subject to floods; it principally drains Jhils, so the supply of fish is steadier than elsewhere, and the water even in the cold season is comparatively warm.

"The Ganges, 'The Mighty,' has the monsters. Ask 'Mountaineer' to tell you how to catch them, as he manages to fetch them out when others don't. He tells me the great art is to pitch the bait as far out as possible. He also uses only small Mahseer, about 2 ozs., when he can get them, in preference to any other bait. The natives catch large fish with a very cunning dodge; the line is wound on a roundish wheel; the end of the line is weighted with a small stone, say 2 lbs. weight; the hook is tied to a snooding about a yard long, and baited with a small fish: sufficient line is unwound, and the stone swung round and round until let go with a jerk, it flies into mid-stream; the line is then tightened, and tied with a bit of

* I do not understand what is meant; I have a shrewd suspicion one is as good as another, and perhaps a good deal better. I have already said my say as an unbeliever in the matter of salmon flies.

thread to a forked stick, and all is ready, the snooding allowing the bait to lay down stream. The fish when taking the bait has to break the thread before he can run, and that hooks him, and he is left to play himself, as most fish are caught in this way at night.

"Fish may be caught with *atta* in the Ganges readily, Mahseer generally, but at times another fish, something like a cross between a Sauli and a Goonch, is to be had. I saw 'Mountaineer' catch three at Rikhikare. Trout can be taken with fly and Mahseer also. Trout in all rivers like a muddy bottom. One year I saw the Ganges dry opposite a village, except in the pools, and I had great success with the fly. Mahseer are caught by the natives as far down as Nagal Ghat, and I had one a short distance above that place.

* * * * *

"The Ramgunga I have fished a good deal. The largest taken in that river by me with fly, is 5 lbs., and the largest when trolling, 29 lbs. I wrote to your paper at the beginning of the season to say that fish had been killed, now there are a plentiful supply of young, but nothing over 8 lbs. has been killed this year with the rod and line as far as I know, but I saw a few big fish in one hole. I had a fine morning last month at the smaller fish with fly. There were shoals of the small climbing fish going up the river, similar to those seen on the bank at Myapur; they are brown above, and white beneath. I put on a home-made fly of these colours, and got 13 fish weighing 23 lbs. in a short time; this I consider very good with the fly. I lost a long time with the first fish, as when hooked a large Goonch and a huge Mahseer ran at him in turns, but he was about 1 lb. in weight, and the water very rapid, and they made a mess of him, never getting a fair hold. I don't suppose I could have done much, if either had hooked themselves, as I had only a light trout rod and fine tackle. I have made some other good bags, but none so heavy in proportion. A native boy taught me how to catch Sauli the other day, and we bagged 18 in about one hour. I could not see that my fine tackle had any advantage over his coarser line. The plan is to bait with a bit of meat, and lower the bait to the bottom, near a weed, and sit still until the fish runs away, then strike, and out with him. The fun was so fast, that I did not even open a sketch-book I took out with me. The fish were of two kinds, one a very ugly big-headed beast, of a uniform dirty olive-green colour, with the two side fins barred brown and black; the other a mottled chap with not so large a head. Both have the fin extending from the vent round the tail to the shoulder, and they are very good eating; they were all small. Next time I will try for bigger ones in deeper water; they have large mouths with strong erect teeth, and often dropped off the hook when landed.

"The Kosi is a good river for fish, but bad for fishing, as contracts are given yearly to the natives to poach it. There are many other small streams with large holes in them, that have good fly fishing with light tackle. The Commissioner's Hole at Ramnagar, on the Kosi, is a good

place for fishing. A few may be had daily with *atta*, a few with live bait, and in the evening a fly, but the fly must look something like a young fish, as the time to catch with fly is when the young fish that have been kept back all day by the people from the town coming for water, try to pass round a rocky bluff in the hole, when the stream strikes them, and carries them out a short distance, then the Mahseer rush at them, and make the water boil. I have seen this at other places, and if you can manage to get a fly there just as the boil is ceasing, you probably get a rise. Watching the proceedings from a high bank above, after the rush is over, three or four of the small fish will be seen twisting about in the water, injured by fins or tails, I suppose; and quite old stagers of Mahseer will be seen gleaning the injured ones, and I always imagine in these cases that fly is mistaken for fish,—at all events it is a sure time to catch.

* * * * *

“PALE FACE.”

Sialkot.—N. tells me the Poonch is within a night's run, and the Cheenab, where Captain —— caught 294 lbs. in one day's fishing.

Poonah.—O., from Poonah, speaks of running out to the Koomowlie, a small river, but *extraordinarily* deep, averaging 60 feet deep, with the bottom honeycombed with rocky cells and grottos, and holding Mahseer of 50 or 60 lbs. Dav too, is spoken of by the same correspondent as near Poonah. He caught some sort of carp-like fish there up to 25 lbs., with the ground-nut for bait. Another day, in three hours, he caught there six fish, weighing 75 lbs. I cannot trace the places on the map, but they are probably easily discoverable by people in the locality.

MAHSEER FISHING, NEAR ROORKEE.

Extract from the “Asian,” of 25th November, 1879.

“A few words now about Roorkee, and how to get there. It is situated on the Ganges Canal, 24 miles from Saharunpore, a station on the Scinde, Punjab, and Delhi railway. Dâks are easily procured for going and coming. The head-quarters of the Bengal Sappers and Miners are always at Roorkee, also the head-quarters and a wing of a European regiment. The Thomason Civil Engineering College is also located there, likewise the Government Canal Workshops and Foundry, where you can get anything from a sewing-machine needle to a wrought iron bridge. The angler can also get artificial baits, gaff hooks, landing net rings, check-winsches, and other metal fishing appliances made to order there. The dâk bungalow is a comfortable one, within a stone's throw of the canal, and all supplies are easily procurable. As all the fishing is either in the

canal or close to it, a small tent is useful for camping out in. There are bungalows all along the canal bank, and leave to occupy them can usually be obtained. There are no boats procurable to fish out of,—at least there were none when I was there, but at nearly all the falls there are long piers stretching out from the main piers of the bridges, on the down stream side, accessible by steps from the roadway of the bridge. At the end of these piers the angler is in the best possible place for spinning, as he is just at the end of the broken water made by the fall above, and just above the places where the big fish usually are. The best time to fish is during the cold weather. I did not get there till March, but even then I had quite as good sport as I had hoped for. As the canal water comes from the Ganges directly the snow water comes down from that river, it also gets into the canal, and puts an end to the fishing. It made its appearance at the time I am writing about, on the 25th March. I certainly got several fish after that date, but no large ones, and by the end of the month the fishing was quite at an end.

* * * * *

“I rode on to Hurdwar, and my tent was pitched close to the camp of the Royal Engineer Officers, who were out there making pontoon bridges for the pilgrims to cross the river. The dam across the Ganges (for the purpose of turning the water into the canal) is about a mile below Hurdwar, and the place is called Mirepoor.

* * * * *

“I was at Mirepoor seven days, and during that time I caught 25 Mahseer, varying in size from 2 lbs. up to 15 lbs. I did not fish all day, or every day either, but had quite as much sport as I wished for.

* * * * *

“F. M. M.”

ASSAM.

Extract from the “Madras Times,” of 29th July, 1878.

“On page 85 the author invites ‘contributions, which will be thankfully received.’ I am thus emboldened to offer the following remarks, premising that my experience is confined to fishing in Burmah, Assam, and Sylhet. . . . There is capital shooting and fishing in Cachar; moreover, the Coseyah and Jynteah Hills are easily got at, and the climate there is equal to Coonoor.

“The late Dr. Jerdon assured me there were some twenty-seven varieties of Mahseer; but in general only three are recognised in Assam and its dependencies. They are called the Useel Mahseer (the true Mahseer), the Boga Mahseer, and the name of the third I forget. . . . The upper part of the body to the central meridian line is almost a golden brown, the fins red, whilst the lower part is bluish-silver: the lips, especially the upper, are very thick, the upper can be uncurred. It is out and out the handsomest

of the Mahseer, and gives the most sport. . . . Mr. Thomas appears only to have fished for these fish from the bank ; a far more killing mode is to troll out of a boat. Whether the Madras boatmen are capable of propelling a boat up rapids I don't know, but the Carens, Burmese, and Cossyabs will take a light boat up frightful rapids with perfect safety. The plan is to trail your bait a good 50 yards behind the boat, and the sport is thus very exciting. As Mr. Thomas justly remarks, the large Mahseer are bottom-feeders and in clear streams, whilst the smaller fish can be seen swimming about midstream, the small fry near the surface ; the monsters keep near the bottom, so if you want big fish, fish deep. The fly is most killing in shallow rapids ; a man should wade in pretty deep, and, if a practised hand, he will kill many fish, but few of them will be above 10 to 14 lbs., and the greater number a good deal less. In the Dehra Dhoon, they use the most gaudy flies, but where I have fished, the most killing fly was a medium sized No. 4 or 5 semicircle hook, dressed like the cock-o'-the-walk as described by Mr. Thomas at page 125. For smaller fish the smoky dun was most killing.

"For spinning I have found nothing equal to a large spoon. . . . In the waters of the Upper Burhampootra—especially near Suddyah—Mahseer are very plentiful and run to a very large size. The best fishermen in Assam, in my day, were the late Capt. Hood—Robin Hood of the *Field*—and Col. Combes—10-bore of the *Oriental Sporting Magazine*. The latter especially made very large bags, but he preferred the fly, and he has caught with it, I believe, fish up to 40 lbs. in weight, but he is the only one I ever heard of performing such a feat, whilst with the spoon and dead bait they have killed fish up to 70 lbs. in weight. For some years I carried on an active warfare with Farlow ; he would not make his treble hooks strong enough ; at last I got him to make the hooks Mr. Thomas alludes to in his book. Many a fish have I lost, and many an anathema have I hurled at Farlow's head because he would not credit that a Mahseer is capable of doubling up the strongest Salmon or Pike hooks. I have had the hooks straightened, too, many a time, but at last we came to an understanding, and Farlow is now by far the best man to go to for not only hooks, but for every description of tackle.

"Besides the Mahseer, we used to catch what the Bengalees call Bassah, and the Burmese Nga Memein. It is allied to the cat fish, and has no scales ; it is delicious eating, and takes a fly or a spoon readily. This fish can be caught in great numbers in the Shoayghein river ; it does not give much play after being hooked. As for murrel I have seen thirteen varieties exposed for sale in the market at Terriat Ghat, at the foot of the ghaut, leading up to that moist place Cherrapoonghe, with its fifty feet of rainfall in the year. . . .

"My first trip towards Sylhet was in 1869, when General Blake was with us. My journal of this trip is not here, so I speak from memory alone. He, Ommanney, and I started in November. We went first to Nurting,

where we shot duck, teal, and snipe ; then to Jawai (Jynteah Hills), and so on across the Hills to the Darrung river. . . . In the depths of the pool below we could see in the clear limpid waters not one Mahseer, but literally thousands. . . . Ommanney caught a couple of fish. . . . The Cossyah boats are very roomy, very buoyant, and are easily propelled by the muscular arms of these Cossyachs. I got hold of a capital fellow, the only word of English he knew was 'wind up,' which he kept repeating whenever we came to a rapid, where there was danger of losing the spoon, or when I struck a fish. We tried in the vicinity of our encamping ground, but though we could see the fish in dozens, they would not look at our baits. We could ascend the river only about a mile, and were then stopped by waterfalls. I went up as far as I could without getting a bite ; I had to go through these rapids. Coming back I struck a trout-like fish at the edge of the rapid, and it was drowned before we got into smooth water.

"Below our camp, towards the plains, the river was navigable for about two miles, when it was partially dammed up by the Cossyachs. There were alternately rapids and reaches of deep water. In one place which we called the gorge, it was at least 50 to 60 feet deep, with the steep hills rising abruptly out of the water's edge. I went down to the obstruction without a bite ; coming back I put on my largest spoon, weighted it heavily, and in the centre of the gorge struck a large fish which immediately took out 50 yards of line. After several rushes, I got the boat moored in a sandy nook and gradually drew the fish towards me. General Blake now joined me and stayed with me till the fish was killed. We could watch its every movement ; it did its best to release itself from the hooks, it would be almost on its side, and rub its mouth into the sand. Presently a fish, every bit as big as himself, came by to see what the commotion was about, the hooked fish went at him like a tiger, taking out some forty yards of line. The sun was well up, the glare very unpleasant, and the perspiration pouring down my face and almost blinding me ; yet I stuck to my fish, and, after upwards of an hour's struggle, got it into the shallows, where 'Wind up' cleverly relieved him. It weighed just 28 lbs., and was, perhaps, the handsomest fish I ever caught, and gave the most trouble to kill. The next day I went below the weir, and, amongst other fish, caught one about 35 lbs., but killed it in about a quarter of an hour. Lightfoot, of the 44th, and Charley Wilson, of the Artillery, an old school-fellow of mine, joined us, and we remained fishing in these waters three more days, and then went partly across country, and partly by water to Jynteeapore, and thence back *viâ* Jowar to Shillong, putting up some woodcock *en route*.

"I cannot give full particulars of this trip, because, as I have said before, my journal is not by me. But in 1870, early in September, Col. Hicks, Ommanney, Baurne, of the 44th, and I, started for these diggings, *viâ* China Poonghe. I need not enter into details of our march. At Jerreah there is a river, which used to be, some years ago, full of Mahseer, but it has been so poisoned of late years by the Cossyachs, that very few fish are

left. The river is full of limestone rocks, and if you strike a fish, you cannot afford to play it, as it is more than likely to get into a hollow rock, when you have to cut him adrift. We commenced to fish on the 14th. O. with a spoon only caught two fish, 1 = 3 lbs., 1 = $2\frac{1}{2}$ lbs., and 14 small fish with the fly; I got one 3 lbs. only. On 15th, Baurne caught 1 = 5 lbs., 1 = 3 lbs., and 1 = 2 lbs. Col. Hicks, 1 = 8 lbs., and 1 = 3 lbs. I had to cut one adrift that got under a rock, but caught three weighing respectively 20 lbs., 9 lbs., and 2 lbs., all on the same spoon. Ommanney, 1 = 3 lbs., 1 = 2 lbs., and a lot with the fly.

"On Saturday we moved towards the Darrung river, and tried a cross cut. Owing to the dams constructed by the Cossyahs we had great difficulty in getting into a branch river, which was connected with the stream we wished to get to. After an infinity of trouble to get to Lakat, we sent for boats to take us on, and put up for the night on a sandbank. During the night we heard fish jumping about, but never thought for a moment that there were Mahseer so far down in the plains. Early next morning, on starting, I threw out my line, without thinking for a moment I should hook anything, but in a second I had struck a very heavy fish. The others crowded round my boat, some declaring I held the fish too taut, others that I gave it too much line; I paid no attention, but worked the fish my own way. At last it kept turning over, belly uppermost, and a beauty it looked too, with its large red fins and tail; it was reduced to the last gasp, and was almost within striking distance of my two-pronged spear, when it gave a last convulsive struggle, and, in turning over, got its body across the line; one beastly hook snapped, and the other two straightened, and off went my monster! Ommanney and I were together, fishing with exactly the same tackle, which was in fact mine. We all got our lines out at once; I kept having all the luck. It began to rain; Baurne had gone on ahead, with Colonel Hicks. As our boat approached a rapid, we saw Baurne coming down it, fast to a very big fish, with all his line out. As he passed us I struck a heavy fish which I bagged in half an hour; no sooner was my spoon in, than I had another fish, a 22-pounder, which I also landed. Baurne passed us in a very despondent mood, having lost his monster. Our hut this time, thanks to Major Stewart, also a good fisherman, was built on the plains side of the gorge, near the weir. We arrived here at 10 A.M. with the following bags:—Colonel Hicks, 9 fish, weighing 43 lbs., largest 13 lbs.; Baurne, 6 fish, 27 lbs., largest 11 lbs.; Ommanney, 1 fish, 6 lbs.; I, with 5 fish, weighing 66 lbs., the largest 32 lbs. The size of this fish was 3 feet 9 inches long, 2 feet in girth. In the afternoon Colonel Hicks caught 1 = 16 lbs., 2 = 4 lbs. each. I caught 1 = 9, 1 = 2, 1 = $\frac{3}{4}$, 1 = 5, 1 = $1\frac{1}{2}$ lbs. B., 1 = 4, 1 = 10 lbs. Ommanney, 7 fish = 47 lbs., the largest 26 lbs.

"Monday morning Col. H., 1 = 4, 1 = $\frac{1}{2}$ lb. I, 1 = 12, 1 = $9\frac{1}{2}$, 2 = 4 each, 1 = 3 lbs. Baurne, 1 = 8 lbs. O., 1 = 8 lbs. In the evening I caught 1 = 41 (4 feet 3 inches long, 2 feet 3 inches girth), 1 = 4 lbs.

Col. H., 1 = 7 lbs. Tuesday morning, O., 1 = 30, 1 = 20 lbs. Col. H., 1 = $1\frac{1}{2}$, 1 = $\frac{1}{2}$. I, 1 = 7, 1 = 5 lbs. We then moved back to the sandbank near Lakat, fishing our way back. It was almost dark, that is, night, when we got there. There was a bright moon, if I remember aright. Opposite to the sandbank, another river joined the Lakat stream. Always remember when fishing to fish a little below the junction of two rivers; if one comes out of the hills close by, and the other through a stretch of plains, so much the better, the fish will assemble at the mouth of the warmer stream in search of food. As fast as we could throw in our lines, though dark, we had a fish on; for a while my spoon was jammed without my knowing it, and as it did not spin I caught nothing, but as the others were catching them as fast as possible, I carefully examined my bait, put it to rights, and at once hooked a whopper. We caught altogether off this bank as follows :—

“Om., 2 = 17 each, 1 = 6, 1 = 8, 1 = $10\frac{1}{2}$, 1 = 11.

“I, 1 = 25, 1 = $3\frac{1}{2}$, 1 = 14, 1 = 6, 1 = 3, 1 = 31.

“B., 1 = 14, 1 = 4, 1 = 2, 1 = 11, 1 = $3\frac{1}{2}$, 1 = $2\frac{1}{2}$, 1 = 10.

“Col. H., 1 = 10, 1 = $3\frac{1}{2}$, 1 = 11, 1 = $4\frac{1}{2}$, 1 = 7.

“Could any one wish for better sport, and the greater part after the sun set, and in a place where it was thought no Mahseer existed? I won't weary your readers with further details of sport. Baurne and the Colonel left that night, and Ommanney and I followed early next morning. My tackle, for a time, was again jammed. Ommanney killed, in a couple of hours, 1 = 26, 1 = 22, 1 = 20, 1 = 14, 1 = 4, whilst I got, 1 = 14, 1 = 6 1 = 4. So much for sport within a day-and-a-half's journey of Cachar, a few hours from Silchar, two days from Shillong. May this be of use to your readers, and to Mr. Thomas in particular, whose acquaintance I have not had the pleasure of making, except through his excellent little treatise.

“PHOONGHEE.”

There is a river at Jalpaigori, about twenty-four hours rail from Calcutta on the way to Darjeeling, where there is fair water for Mahseer running to a good size. It is a good ride from the railway station. I forget the exact distance, but think it must be about 20 miles.

AFGHANISTAN.

Kurrum.—There is Mahseer fishing in the Kurrum Valley. W. T. F. (*Asian*, 25th November, 1879), took them up to 5 lbs., knew others who had killed them up to 10 lbs. and 12 lbs., and does not think they run over 15 lbs. there. He considers the river to be

full of fish. It is easily commanded by an 18-ft. rod. He killed with gilt spoon and black fly, and had other flies carried away. The fishing stops as soon as the snow begins to melt on Safaid Koh, about March.

D., in the *Field* of 26th June, 1880, gives a long description of fishing in this valley.

Dr. W. writes that for the first three stages in Bolan Pass he caught good Mahseer, and the river is full of fish. That a Carp of some sort was in every puddle, spring, or river, in abundance in the Bolan Pass and thereabouts. He caught them up to 4 lbs. with a spoon, but the average weight was about $\frac{1}{2}$ lb., a worm close to the bottom being a killing bait.

INDEX.

ACCESSIBILITY of small fish, 171
 Acclimatization of fish, 256, 260, 349
 Acknowledgment of assistance, 5
 Address of tackle makers, 271
 Afghanistan, 34, 417
 Air-breathing fish, 233
 Ajmere, 389
 Alanalur, 375
 Allahabad, 387, 403, 404
 Allcock & Co.'s wire gimp, 208
 Alligators. *See* Crocodiles.
 Alternating pools, 160
 America, 3
 Ambala District, 387
 Angadipuram, 375
 Angler fish, 94
 Anglers aiders of pisciculture, 3-6
 — at Loch Lomond, 364
 — co-operation of, sought, 6
 — in India are few, 6
 Angler's Handbook, 104, 193, 366
 Anglers. *See* also Fishermen.
 Angles of vision in water, 99, 109
 Anglicised names for fish, 171
 Anglicoorch, 378
 Angling not pain-giving, 350, 403
Anguilla Bengalensis, 235
 Anjeracoondy, 374
 Ankle boots recommended, 324
 Antelope communicating, 80
Antheræa Paphia, 297
 Anti-sulking tactics, 13
 Ants communicating, 82
Apologia pro libro meo, 1
 Apparel, 325

Archer spinner, 72
 Areacode, 375
 Arienkavu, 378
Arius, peculiar spawning of, 339
 Arsenical soap, recipe for, 361
 — injuriousness of, 362
 Artificial gram suggested, 132
 — minnow, use of, 59, 61, 402
 — otter, 312
Asian, extracts from the, 402-412
 Asiatic trimmer, 230
 Assam, 413
 Assam fish, 315
 Asufgurrh, 407
Attacus Atlas, 297
 Attapadi, 372, 376
 Australia, 3
 Avadavats, 345
 Avernus, 236

 BACK fish, Mahseer not, 42
 Back-flow, 238
 Bag, a good, 401, 408
Bagarius Yarrellii. Its size, etc., 209
 Bait for Labeo, 202
 — *Polynemus*, 240-242
 — found in rice fields, 74
 Baiting a single salmon hook, 67
 — hook with gram, 131, 135
 — live for Murrel, 229-232
 — dead fish for Murrel, 227, 228
 — — Mahseer, 65-72
 — frog for Murrel, 230
 — needle, use of, 66
 — with paste, 143

- Bait-kettle, earthen pot as, 306
 — kettles, 307
 — preserved in salt or spirits, 86
 — sizes of fishes for, 62, 74-76
 — sorts of fishes for, 73, 74
 Balahunshi, 367
 Bâlehannur, 379
 Bâ-min. See *Polynemus*.
 — Committee, 241
 Banair, 387
 Banyan fruit as bait, 130
 Barbel, Mahseer a, 24
Barbus Carnaticus, 146
 — *chrysopoma*. See Olive Carp, 178.
 — *curmuca*, 170
 — *filamentosus*, how to strike, 164, 178
 — — See Black Spot, 178.
 — *hexaganolepis*, 170
 — *Jerdoni*, 170
 — *Mahecola*, 178
 — *mosal*, 25
 — *tor*, description of, by Dr. Day, 25
Barilius bola. See Indian Trout.
 — — fly fishing for, 186-191, 404,
 409, 411
 — *Canarensis*, 179
 — other, 179
 — *gatensis*, 261
 — — flies for, 261
 — — season for, 262
 Barils, description of, 185
 — game little fly-takers, 179
 — places for them, 179
 — flies for them, 180
 — several small sorts of, 179
 Bartleet & Sons, 119
 Basket seat in coracle, 160-162
 Bata, 409
 Batches of eggs, 42
Batchwa, or *Pseudotropius garua*, 216,
 222, 387
 Bawally, 137
 Bawanny Mahseers, 31
 Bawanny, the, 149
 Beasts communicating, 79
 Begti, 249
 Bellary, 366
 Below your fish, 16
 Bengal gram as a bait for Mahseer, 130
 Beyn, 387
 Beypore, 244, 375
 Bhâmo, 391, 392
 Big fish, 35, 39, 195, 209, 401, 408
 Bijpore, 407
 Billikal lake, 262, 263
 Billipatam, 244, 374
 Biranthadaka, 369
 Birds communicating, 81
 Bison communicating, 80
 Blackamoor, 115, 124, 404
 Black flies preferred, 114
 Black Spots. See Jadkal, Mâla, Wondse.
 — the habitat of, 178
 — manner of taking fly, 164, 178
 — need finest striking, 177
 — swim in shoals, 177
 — thrive in ponds, 177
 — taking hours, 178
 — description of, 178
 Boar spearing, 8, 14
 Boat fishing, 108, 396
 Bolting down stream, 16
 Bom-min, 26, 29
 Bones, have it in my, 149
 Boots, best for wading, 324
 — to prevent shrinking, 324
 Boring, gram, 131, 135
 Borelli, 355
 Bottom feeding propensities of Mahseer,
 45, 46, 402
 Bottom-fishing, fish to be caught by, 196
 Bottom-fishing for Chela, 173, 175
 — Labeos, 192
 — Olive Carp, 178
 — Mahseer with live bait, 136
 — — paste, 141
 — in the sea, 259
 Bowalis, 137
 Brain of fish, 78
 Brake-winch, 289
 — needed, 397
 Bridge, the best side of, 243
 Bright water for Mahseer fishing, 49, 72,
 91, 97, 136-138
 Buchanan, 25
 Buffalo rare, story, 36

- Burmah, 34, 389-395
 Buroundah, 404
 Butler's 'Hudibras,' 225
 Button end, 301

 CACHAR, 413
 Calasa, 379
 Calcutta, good tank angling, 387
 Calicut, 244
 Calculating weight of Mahseer by length
 unreliable, 37
 Canara District, 367
 — fevers, 367, 369
 Cannanore, 244, 245
 Canooth, 374
 Captain Cuttle's watch, 258
Caranx at Cundapoor, 370
 Carder's Mahseer, 36
 Carkencottah, 376, 380, 381
 Carnatic Carp, 146
 — brought to the Nielgherries, 168,
 263, 265
 — places to fish for, 149, 150, 152
 — congregate like Dace, 150
 — wander like Dace, 150
 — their manner of taking the fly, 164
Carpe diem, 104
 Carp, Mahseer a, 24, 52
 — how to catch the common, 264
 — in the Ootacamund Lake, 264
 — the white, 196
 Carrulhoondy, 244
 Castle Connel rod, 65
 Cat-fish spawning, 339
 Catla of 77 lbs., 195
 — setting rod for, 143
 — take paste bait, 196, 201
 — take small fish, 201
 Cat rigidifies pad, 52
 Cawnpore, 408
 Central Museum. *See* Museum.
 Chabena, 131
Chagunio, setting rod for, 143
 Chalkhill, 328
Chanos salmoneus, 259, 370
 Chapman spinner, 72
 Chasing by Mahseer, 91
 Chatty as bait kettle, 306

 Characteristics of rods, 166, 167
 Chàrmàdy, 367
Chela argentea, 172, 384, 385, 387, 393
 — flies, 173
 — a pond and river fish, 172
 — their size, 172
 — ten sorts of, 172
 — fishing hours, 173
 — lying places, 173
 — float fishing for, 173
 — description of, 175
 — at Nàgawadi, 369
 — vernacular names of, 175
Chelmo rostratus, expectorating, 162
 Chèri Kadavu, 372
 Chilka Lake, 384
 Chilwa. *See Chela argentea*.
 China, 34
 Chin Hills, 390
 Chirà, 387
 Chirgaon, 406
 Chitor, 389
 Chitral, 34
Chrysophris berda, 237, 253
 — *datnia*, 237
 Chub, a fish-eater, 52
 Chunchincuttay, 380
 Chuparapadu, 374
 Cicily, 369
Cirrhus cirrhosa, 196
 Classification of Mahseer, 24
 Clearing the rod top, 9
 Clear water essential for Mahseer fishing,
 49, 137, 402
 Clothes for wading, 323-325
 Coastguardsmen, 235
 Cobblers' wax, 305
 Cobra, female, 33
 Cock-o'-the-walk, 125, 397
 Cock-up. *See Lates ca. carifer*.
 Cock-up at Mangalore, 369
 Coerce him not, 195
 Cold wind, effect of, 51
 Collis, Dr., 209
 Colonel Osborn's paper, 240
 — Parson's method of fishing, 136
 Coloured water, fishing in, 136
 Colouring, manner of, fish, 29, 30

- Colquhoun's 'Moor and Loch,' 351
 Comfort in a coracle, 160-162
 Committee, Bâ-min, 241
 Communicating, power of, in Antelope, 80
 — Ants, 82
 — Birds, 81
 — Bison, 80
 — Dogs, 79
 — — wild, 81
 — Fishes, 77-79, 83-86, 352
 — Monkeys, 79
 — Sheep, 80
 — Tigers, 81
 — Wolves, 81
 Compression, Mahseer breaks hooks by, 270, 395
 — — crumples spoons and kills small fish by, 48, 52
 Concealment, important, 56, 59, 97-100
 Confidants among rods, 63
 Contents of stomach of Mahseer, truthful index of food, 54
 — information to be gained by examining, 44, 52, 54, 57
 Continuity of pressure in playing a fish, 13, 14
 Contrarities of Mahseer, 49, 52
 Contributions acknowledged, 5
Coollon. See *Lates calcarifer*.
 Cooloor, 369
 Co-operation of anglers sought, 5, 365
 Coorg, 381
 Cootyaddy, 374
 Coracle, 148
 — fun in, 154, 155
 — seat for, 160
 — shooting a rapid, 153
 — sucked down, 155
 Cornly, about the size of, 39
 Corpulent Mahseer, 28
 — tiger, 28
 Corrosive sublimate, 362
 Cosseyah Hills, 413
 Cottampally, 375
 Cotton, quotations from, 112, 261, 269
 Courtallum, 378
 Coxon spinner, 70
 Crocodiles, useful, 348
 Crocodile and Alligator, difference, 347
 — night line for, 346
 — spearing, 347
 — when wading, 326
 Crumpled up spoon, 52
 Cudalloor, 375
 Cultivating a pond, 342
 Cundapoor, 369
Cybiium. See Seer fish, 256.
 Cyclopædia, English, 355
 DACE-LIKE manner of taking fly, 164
 Dâdapur, 187
 Dapping with a dead frog, 230
 Dav, 412
 Day, Dr., 262
 Day's, Dr., Fishes of India, 25, 26, 37, 169, 170, 175, 178, 179, 185, 186, 191, 214, 215, 220, 223, 249, 253, 256
 Dead bait, size of, 62, 74-76
 — *v.* live bait, 57, 58
 Dee minnow tackle, 69
 Deep fishing, 60, 109
 Dehra, 406
 Delhi district, 387
 — Ghat, 143
 — and S. P. Railway, 187
 Deoli, 190
 Depth at which to fish for Mahseer, 54, 60, 109
 Description of several Barils, 185
 Detective float, 200
 Dharmastala, 369
 Dhunna, 406
 Diagrams of angles of vision, 99, 109
 Diners out, 205
 Dinner bell, 258
 Disadvantages of Indian Pisciculturist, 4
Discognathus lamta, 35
 Discoloured water, method of fishing in, 136
 Disgorger, 209
 Distribution of the Carnatic Carp, 148, 168
 Dogs, communicating, 77, 78
 Domestication of Otter, Chap. XXII.
 Donne, quotation from, 57
 Doon, 187

- "Doon's" flies, 404, 405
 — letters, 402-408
 Double loop, 276
 Drawing of hooks, 279
 — manner of, fish, 29
 Dress, 323-325
 Drop fly, tying on a, 183
 Drying a pond, 342
 Dunsford, Mr., 74
 — endorsement, 193

 EAST wind, effect of, 51
Echeneis remora, 35
 Edda, 375
 Eddamunnah, 375
 Eddawarra, 376
 Edibility of Carnatic Carp, 162
 — Eel, 235
 — Mahseer, 23
 Educated Trout, 83, 93
 Education of Mahseer, 131
 Eels, avoiding, 137
 — night lines for, 236
 — size, strength, edibility of, 235
 Elangao, 409
 Elephant hair, 358
Elops saurus, 255
 English Cyclopædia, 355
 Enlarged sinkers, 68
 Eroocur, 374
 Estimating weight of fish, 17,
 Estuary fishing unsatisfactory, 258
 Etymology of Mahseer, 34
Eulates religiosa, 81
 Evil tendencies of frogs, 233
 Exfoliations of fish, 349
 Experiment at Vallam, 340
 Explanation of terms, 25, 26
 Extracts from the *Asian*, 402-412
 — *Field*, 118, 395-402
 — *Land and Water*, 352
 — *Madras Times*, 413
 Eyed hooks, knots for, 280-283
 — rusting gut, 138-139

 FAILURES in gram fishing, 130
 Falstaff's law of nature, 207
 Fancy flies, the most killing, 114

 Fasting, a mistake when fishing, 168
 Fategarh, 408
 Feeding of fish, 358
 — by suction, 45
 — times, 104
 — at various depths, 46
 Ferrules, 301
 Fever, 367, 369, 375
 — in Bengal and N. W. P., 402, 409
 — See Siradi and Wondse.
 — See Sittuguni
Field, extract from, 118, 395-402
 Fight between Otter and Jack, 330
 Fine fish. See Big fish.
 Fineness of tackle important, 72, 78, 90,
 91
 Fine striking, 166, 167
 Fins, names of, 26
 Fish communicating, 77-79, 83-86, 352
 — feeding of, 358
 — for bait, 73, 74
 — jumping towards river, 350
 — no fools, 78
 — see before they are seen, 97
 — short-sighted under water, 95, 325
 — slowly, 90, 91, 127
 — think, 77
 Fishermen, observant, 3
 Fishing deep, 60, 109
 — hours, 104, 134, 145, 173, 227, 241,
 397
 — in discoloured water, 136
 — localities (Chap. XXVI.), 105, 240,
 244, 248, 365
 — months, 103, 104, 134, 138, 245,
 248, 402, 413, 418
 — with ball of worms, 203
Fishing Gazette, 118
 Flaps on lips of Mahseer, 32
 Flight of hooks for *Polynemus*, 242
 Float fishing for Chilwa, 173
 — — the charms of, 192
 — — with live frog, 230
 Fly drop, 183
 — fishing generally, 112
 — — for Mahseer, 112
 — — sea fish, 248
 — — small fish (Chap. XII.)

- Fly for Barils, 180
 — Black Spots, 180
 — Carnatic Carp, 158
 — Chilwa, 173
 — Indian Trout, 189
 — Mahseer—Blackamoor, 115, 124, 404
 — — Cock-o'-the-walk, 125, 397
 — — Smoky Dun, 125
 — — recommended by "Doon," 404, 405
 — — — "K.," 397
 — — — "Pale Face," 409
 — Olive Carp, 178
 — manner of taking the, by the Carnatic Carp, 164
 — sizes of, 115
 — spoon, 128
 — tying, 125, 126
 — v. spinning, 57-58, 402
 — spoiling in India, 279, 280, 303, 305
 Food of Mahseer, 44
 Foul Fish, Mahseer not, when spawning, 42
 Franklin, 114
 Free hook in bottom fishing, 198
 Freshwater mullets, 221
 — sharks, 137, 207, 208
 — — three sorts of (Chap. XIV.)
 Friction of winch, 11
 — from the rod, 11
 Frog as bait for Murrel, 228
 — dapping with a dead, 230
 — eating frogs, 233
 — taking flies, 174
 — the bad habits, 233
 — hard life and jollity of, 232
 Fry ascend rivers by back-flow, 238
 — eaten by frogs, 232
 — in estuaries, 238
 — in rice fields, 338
 GAFF-HOOK, 19, 209
 Gairsoppa, 382
 Game Association, 265
 Gamoth, 374
 Ganges, the, 51, 187
 Ganjam, 384
 Garial or Gavial, 347
 Geen's Richmond spinner, 69
 — trout size, 218, 228
 Gimp, rust-proof wire, 208
 — stout, for sea fish, 242
 Goldsmith, 8
 Good fishermen are good observers, 3
 — killing larger fish than indifferent fishermen, 75, 76
 Goolara, 406
 Goonch, 411
 — big bag of, 211
 — spearing, 408
 Gopaneri, 372
 Gorgopille, 386
 Gram fishing, 130
 — "W. F. F.'s" method, 130
 — "J. A. B.'s," suggestions, 135
 Grant, Major J. C., 265
 Grasshoppers as bait, 159
 Gratings, 342
 Grey mullet fry, as bait, 242
 — Perch, 253
 Ground bait, 203
 — baiting for Mahseer in gram fishing, 132
 — — in bottom fishing, 144
 Gudalur, 373, 376
 Gujranwalla District, 387
 Gunnapadivattam, 376
 Gurdaspur, 387
 Gut, brittleness of, in India, 276
 — manufacturing, 297
 — of Tussa Silkworm, 297
 — rust eaten, 277
 — soaking, 276
 Gwalior, 188
 HAGGADEVANCOTTAH, 380
 Hair, elephant, 358
 Hallaminu, 26
 Hamlet's progress, 345
 Hampee, 367
 Hand of a fish is his mouth, 163
 Handling a Mahseer, 18
 Hanging a pleasant sensation, 351
 Hansogee, 380

- Harali minnu*, 26
 Hassan Saugar tank, 381
 Hatti, 387
 — shikaree, 170
 Hearing in fish, 84, 99, 352
 Henderson's 'My Life as an Angler,' 351
 Heresy about salmon flies, 113
 Hiawatha's fishing, 58
 Highly educated Trout, 93
 Hill Sanatoria, fishing on (Chap. XIX.), 261
 Hog-backed fly spoon, 128
 Hoginkal, 377
 Holding the rod, 166
 Hooks breaking under the barb, 140
 — difficulty about standard of, 118
 — drawing, 126, 279
 — eyed, knots for, 280-283
 — flight of, for *Polynemus*, 242
 — flights of, 304
 — for gram fishing, 132
 — Kendal scale of, 121
 — Limerick, scale of, 116, 120
 — makers, 118-124
 — peculiar eyed, 138
 — Rohu, 123
 — single for Mahseer, 67
 — sneck bend, scale of, 121
 — special, for Mahseer, 119, 269, 414
 — temper of, 122
 — thickness of wire of, 121, 123
 — too many, deprecated, 72
 — treble, scale of, 119
 Hoonsoor, 380
 Hoshiapur District, 387
 Hospet, 367
 Hours for fishing for Bà-mìn, 241
 — Black Spots, 178
 — Carnatic Carp, 168
 — Chilwa, 173
 — Cock-up, 251
 — Estuary fish, 258
 — Indian trout, 187
 — Mahseer, 104, 134, 397
 — Murral, 227
 How to work the fly for Mahseer, 126
 'Hudibras,' 225
 Hurdwar, 187, 406, 407, 413
 Hutchinson & Son, 121
 Hyderabad, fishing near, 382
 — style of fishing, 196
 Hyders fish. See *Chanos*, 259.
 ICHTHYOLOGICAL names, 147
 Immortal, all but, 74
 Impromptu tackle disapproved, 269
 Indian entomology, 180
 — pisciculturist, his disadvantages, 4
 — Trout, 179, 186-191, 404, 409-411
 — — description of, 186
 — — fishing places for, 187
 — — leap into the air, 188
 — — the baits for, 187, 189
 — — their colour and size, 187
 Internal evidence, 45
 Inventory of Mahseer's stomach, 44
 — information amassed by taking, 44
 Iritti, 374
 Irrawaddy, 392
 Izaak Walton, 24, 171, 216, 340, 365
 — singeing gut, 279
 JACK and Otter fight, 330
 — of 7 lbs. used as a bait, 75
 Jadkal, 369
 Jagadri, 187, 387
 Jalpaigori, 417
 Jamun Khatta, 407
 Japan, 3, 34
 Jardine tackle, 141
 Jaw, powerful, of Mahseer, 52-54
 Jerdon's otter, 333
 Jerked out of my hand, 12
 Jhànsi, 404, 405
 Jhelum, 387
 Johnson's, Dr., definition, 78
 "J.'s" letter, 91, 408
 Jubbulpore fishing, 130
 Jullunder District, 387
 Jumna Bridge, 387
 Jumping, fish, towards river, 350
 — into the air not the habit of Mahseer, 15
 Jungle cock fly, 125, 397
 Jynteah Hills, 413

- KACHIN Hills, 392, 395
 Kahùta, 387
 Kàlapàni, 406
 Kalbans, orthography of name, 199
 Kallei river, 244
 Kansaras, 407
 Karàchi, fishing near, 383
 Karackwasla, 268
 Kàramadi, 372
 Kàrkai, 367
 Karkenkotai, 376, 380, 381
 Karnal, 388
 Kashmere, 387
 Keen-sightedness of fish, 97
 Keeping bait alive, 349
 — below your fish, 16
 — out of sight, 56, 58, 97-100, 404
 Keirgaum, 268
Kembèri. See *Lutianus roseus*.
 Kempuholle, 368
Kendai, 26
 Khandwa, 389
 Khasia Hills, 409
 Khurkha, 404
 Killing fish by compression, 65
 ————— Mahseer, 48,
 52
 — a fish alone, 150
 — or playing a fish, 12-17, 397
 — Mahseer, 22
 Kinacorai, 373
 Kinds of fish for bait, 73, 74
 Kingfishers useful, 358
 Kirebàg, 368
 Kirkpatrick's, Mr., bag of Goonch, 211
 — notes on the Sinnun, 213
 Kirpà, 387
 Kishur, 374
 Kistnapatam, 377
 Knot, double loop, 276
 — eyed hooks, 280-283
 — for drop fly, 183
 — for running line, 185
 — fly tying, 282, 283
 — gut, 304
 Kodaikānal and stocking it, 261, 373
 Kodanād, 373
 Kogem, 374
 Kohrar, 404
 Kondakemberu, 386
 Koolsara, 404
Kors, the, a fish, 215
 Korwinee, 387
 Kotirgherry, 373
 Kùdipatte, 372
Kulanji. See *Lates calcarifer*.
 Kumaon, 268
 Kunkhal, 407
 Kurram, 417
 Kutī, 150, 153, 154
 "K.'s" letter, 395

 "L. J.'s" letter, 91, 408
 Labeo captures, 193
 — cost of stocking ponds with, 206
 — fishing for, in rivers, 199
 — in waves, 196
 — kills of, 192
 — running line for, 199
 — setting rod for, 143
 — their sorts and sizes, 192
 Lahore District, 387
 Laour, 408, 409
Land and Water, extract from, 352
 Landing a Mahseer, 18, 398
 — net, 20, 21, 22
 Lateral line, 349
 — vision of fish in water, 94, 325
Lates calcarifer, 249-253
 — bait for, 250
 — description of, 253
 — peculiarities, 251
 — season for, 250
 — size of, 249
 — tackle for, 250
 — time for, 251
 — water for, 250
 Lead wire for weighting lines, 199, 306
 Leeches, 324
 Lerving, Sir V. H., 261
 Limerick hooks breaking at the barb,
 140
 — scale of, 116, 120
 Line cutting rings, 397
 — drier, 297
 — drying, 296

Line, running, 284, 395, 399
 Live bait *v.* dead bait, 57, 58
 ——— picketed, 136
 ——— baiting, native way of, 229, 230
 ——— for Murrel, 229
 Local fishermen, need for, 259
 Localities for fishing (Chap. XXVI.),
 105, 244, 247
 ——— in which different fish are found,
 106
 Lochleven Trout on the Neilgherries,
 264
 Loch Lomond anglers, 364
 Locomotion of fish, 355
 Longfellow, quotation from, 49
 Loop, double, 276
 Loss of weight after capture, 37
 Lullutpore, 405
Lutianus roseus, 96, 253
Lutra nair and *vulgaris*, 329, 334

 MACKEREL fishing, 255
Macrones, 214, 215
Madavu. See *Lates calcarifer*.
Madras Times, extract from, 413
 Magpies' feathers, 124
 Mahé, 240, 244, 374, 376
 Mahseer, a Barbel or Carp, 24, 52
 ——— a fine, 35, 39, 401, 408
 ——— bait for, 44, 62, 407
 ——— bottom feeder, 45, 46
 ——— chase prey, 91
 ——— classification of, 24
 ——— contrarities of, 49, 52
 ——— description of, by Dr. Day, 25, 26
 ——— do not jump into the air, 15
 ——— edibility of, when spawning, 43
 ——— etymology of, 34
 ——— flies for, 115, 124, 125, 397,
 403-405, 409, 414
 ——— fly fishing for, 112
 ——— food of, 44
 ——— habitat of, 35, 105
 ——— hooks for, 119, 269
 ——— how to spin for, 57, 101
 ——— in a boat, dangerous, 22
 ——— kills small fish by compression, 48,

Mahseer, landing a, 18, 398
 ——— migratory, 41
 ——— misuse of the name, 146
 ——— mouth of, 45
 ——— name of, 24
 ——— natural history of, Chap. III.
 ——— ovaries of, 42
 ——— pharyngeal teeth of, 47
 ——— playing a, 12-17
 ——— power of jaw of, 48
 ——— propagating, 338
 ——— rigidifies muscles of mouth, 52
 ——— rod, 10, 62-65, 101, 299, 300
 ——— setting rod for, 142-145
 ——— size of, 34, 35, 401
 ——— sexual difficulties in, 33
 ——— spawning in batches, 42
 ——— ——— times of, 41, 43
 ——— sport given by, 8, 9, 397, 402
 ——— surprise their prey, 90, 91
 ——— swimming power of, 9
 ——— tackle for, Chap. XX., 269
 ——— take bait head-foremost, 70, 71, 90
 ——— taken in bright water, 49, 138, 402
 ——— ——— coloured water, 136
 ——— taking a swallow, 407
 ——— telegrams beneficial, 2
 ——— varieties of, 27-34, 413
 ——— vernacular names of, 26, 29
 ——— weighing, 37-39
 ——— with prolonged lip and beard, 33
 Mai, 404
 Måla, 369
 Malabar localities, 374
 Malapuram, 375
 Malkangiri tåluq, 385, 386
 Målur, 379
 Manantoddy, 376, 381
 Manchester Cotton Twine Spinning
 Company, running lines, 288
 ——— whipping cord, 306
 Mandagadde, 379
 Mandaghery, 380
 Mandalay, 389, 391
 Mangalore, 369
 Manjairy, 375
 Manzerabad, 381
 Måranhally, 381

- Marmot's opinion, 10
Mastacemblus, 235
 Maumbat, 375
 Maundsaur, 389
 McIvor, Mr., 264
 Meer Allum tank, 382
 Meerut, 408
Megalops cyprinoides, 255
 Mercàra, 41
 Milt, 42
 Minnow. *See* Artificial.
 Mirepoor, 413
 Mirzapore, 403
 Mogoung, 392
 Mokerian, 387
 Molluscs, 44, 45
 Monkeys attract fish, 152
 — communicating, 79
 Months to fish in, 103, 104, 134, 138,
 402, 406
 Morant. *See* *Ophiocephalus gachua*.
 Morar, the, 188
 Motu, 386
 Mountaineer, 51
 Mow, 406
 Mr. Weller, 57
 "M.'s" experiences, 246
 Mudràdi for Black Spots only, 370
Mugil cascasia, 221
 — *corsula*, 221
 Mullet fry as bait, 241, 242
 Mulley, 207
 Mummah, 375
 Munaur, 376
Muraenidae, 235
 Murrel needs air, 142, 233, 234
 — rearing fry, 234
 — *See* *Ophiocephalus*.
 Murre, 387
 Music hath charms, 13
 Mussoorie, 187
 Muti Mula, 268
 Myapore Bridge, 407, 411
 "My Life as an Angler," 351
 My methods endorsed, 193
 — — tested, 194
 Mynas, 81
 Mysore Territory, 379
 NADGHÀNY, 376
 Nàgawadi, 369
 Nàgodi. *See* Nàgawadi, 369.
 Nagul Ghat, 411
 Nahan, 409
 Nair fish. *See* *Lates calcarifer*.
 Names of fins, 26
 Native way of live-baiting, 229, 230
 Native tackle, 248
 Negapatam, 377
 Nellambur, 375
 Nellatorai, 371
 Nellore District, 377
 Nepaul boundary, 409
 Nerbudda, 34, 130, 135
 Neriya, 367
 Net, landing, 20-22
 New sensation, 47
 Newtakka, 389
 New Zealand, 3
 Nidamangalam, 378
 Nielgherries, Carnatic Carp on the, 262
 — fishing on the, 262
 — Game Association, 265
 — Trout on the, 264, 265
 Night fishing for Labeos, 143
 Nightingale, Major G., his fish, 130
 Night-line for crocodiles, 346
 — for eels, 235
 — fishing for Mahseer, 144, 410
 Nirali Hill, 372
 Nooses for Indian Trout, 187
Notopterus chitala, 216
 Nowgong, 406
 OBESITY in Bawanny Mahseer, 28
 Observe, how to, 99
 Observing habits of fishermen, 3
 Olfactory nerves of Otter, 328, 329, 331
 Omnivorousness of Mahseer, 57
 Oorcha, 405
 Ootacamund Lake, fish in, 262, 263
Ophiocephalus affectionate towards its
 young, 234
 — baiting frog for, 230
 — breathes atmospheric air, 233
 — *gachua* as a good spinning bait, 73,
 234

- Ophiocephalus gachua*, unsuited for live bait, 142
 — habits of, 228
 — live-baiting for, 229
 — position of its eye, 228
 — shooting, 227
 — spinning for, 228
 Ordering tackle, hints on, 269, 316
Oreinus, wrongly called a Trout, 186
 Osborn's, Colonel W., contribution, 240
 — rod, 242
 Otter and Jack fight, 330
 — artificial, 312
 — distribution of, 333
 — etymology of, 329
 — feeding of, 335
 — follows scent, 328, 329, 331
 — Indian, 333
 — Jerdon's, 333
 — live. *See* Contents, Chap. XXII.
 — pleads not guilty, 336
 — tail of, 334
 — tameable, 330, 333
 — usefulness of, 336
 Ova hatched in the mouth, 339
 — proportion reared naturally and artificially, 337
 — small fish eating, 77
 Ovaries of Mahseer, 42
 Overflow, 344

 PACE at which to fly fish, 112
 — spin, 88, 89, 95
 Pachmarhi, 267
 Paddle your own canoe, 57
 Paddybird's wisdom, 151
 Pain-giving by angling, 350, 403
 Pàlayùr, 372
 "Pale face's" flies, 409
 — letter to the *Asian*, 409
 Pàlgàt, 375
 Pàmban Salmon, 248
 Pandikàd, 375
 Pandritan, 387
 Pangwàs, setting rod for, 143
 Paper scent, 358
 Parakudu, 374
 Paraputhorai, 372
 Parson's, Colonel, method of fishing, 136
 — paper on the *Barilius bola*, 186
 — snood, 139
 Paste baiting, 143
 — bait, recipe for, 202
 Pathurpore, 404
 Paucity of anglers in India, 6
 Paupanàssam, 378
 Pawzgam, 387
 Peculiarities of Mahseer, 49, 52
 — spawning, 338
 Pennàgaram, 377
 Pennell-eyed hooks, 119, 120
 Perambadi, 374
 Perch caught with its own eye, 350
 — estuarial, 253
 Periyàr, 373
 Persian origin of name Mahseer, 34
 Peruval, 26
 Phantom minnow, 56, 61, 402
 Pharyngeal teeth of Mahseer, 47
 "Phoonghee's" letter, 413
 Picketted live bait, 136
 Pike, 50 lb., caught on 7-lb. bait, 75
 Pike-gag, 209
 Pike-like Murrel, 226
 Plrmeid, 373
 Pisciculture indebted to anglers, 2, 3, 4
 Pisciculturist, disadvantages of Indian, 4
 Places for fishing. *See* Localities.
 Plaster of Paris, renewing, 361
 Playing a fish, 12-17, 399
 Pliable rod, method of using, 101
 Pliability of rod advocated, 10, 62-65, 101
 Podiya, 386
 Polygamous fish, 339
Polynemus, flight of hooks for, 242
 — manner of fishing for, 243
 — peculiarities, 240
 — rod for, 242
 — season for, 245, 248
 — strength and size of, 240, 245, 246
 — striking a, 245
 — tackle for, 242
 — their food, 241, 242
 — where to find, 240
 Pond drying, cultivating, stocking, 342

- Pools, fishing in, 108
 Poonah, 135, 268, 384, 412
 — river, 135
Poongah, the, a fish, 215
 Porpoise, killing a, 348
 Porpoises converse, 85
 Position of ovaries, 42
 — the rod in fly fishing, 127
 Power of jaw in Mahseer, 48
 — Mahseer, 9
 Prawn tackle, 254
 Predatory fish affect sick fish, 93
 — surprise their prey, 90, 91
 Preparation of Bengal gram, 131, 135
 Preparedness for first rush of Mahseer, 9
 Preserved bait in salt preferred, 86
 Preserving fish by stuffing, 359
 — in salt, 86
 — in spirits, 86, 362, 363
 Prevention better than cure, 13
 Prices of rod and tackle, 316
 Professional diners out, 205
 Prometheus, 113
 Propagating Mahseer, 338
 Proper arrangement, 339
 Protruding lip of Mahseer, 45
 Provoking bed-fellows, 345
Pseudeutropius garua, or *Batchwa*, 222
 Puddling a stream for Trout, 50
 Pulliary Pass, 378
 Pulney Hills, 261, 373
 Punctuality of estuary fish in feeding,
 258
 — insisted on, 17
Pupta, 214, 224
 Puthri, 408
 Putrid sea water, 245
 Pykara, 265

 QUETTA, fishing near, 383
 Quick-sightedness of fish, 97

 RAJAMUNDRI, 385
 Rāmānagur, 411
 Rāmānāthpore, 380
 Rāneepore, 406
 Rapid, shooting a, 153
Rasbora daniconius, 265

 Rationale of fly fishing for Mahseer, 113
 Rawal Pindi District, 387
 Reasons for writing this book, 1, 2
 Receipt for arsenical soap, 361
 — cobbler's wax, 305
 — fly-maker's wax, 306
 — paste bait, 202
 — preserving fish in spirits, 362, 363
 Red Perch. See *Lutianus roseus*.
 Reel. See Winch.
 Refraction aids fish to see, 99
 — allow for in shooting fish, 227
 Rest for setting rod, 142
 Rewah, 403
Rhyncobdellidæ, 235
 Riawalla, 406
 Rice fields, bait to be found in, 74
 — fry to be reared in, 338
 Richmond spinner, 69
 Rickeekhasee, 407
 Rigidifies muscles of mouth, 52
 Ringol rods should be oiled, 201
 Rings on rod, 303
 — top, 302
 RIVERS :—
 Anjeracundy, 374
 Arson, 410
 Babarie, 404
 Bata Stream, 409
 Bawanny, 370, 372, 373, 376
 Beas, 387
 Betwa, 404, 405
 Beylun, 403, 404
 Beypoor, 375
 Bhima, 268
 Burrhampootra, 414
 Camārdāri, 368
 Cāvēry, 370, 375-377, 380, 381
 Chenab, 387
 Coleroon, 377
 Cootyaddy, 374
 Cubbany, 375, 380
 Cubbināli, 368
 Dessaun, 404, 405
 Gambar, 387
 Ganges, 51, 407, 408, 410
 Garepiro, 386
 Giri, 387

RIVERS (*continued*):—

Hemavatty, 380
 Hubb, 383
 Hurnai, 383
 Irrawaddy, 392
 Jhelum, 387, 396
 Jumna, 187, 387, 410
 Kāla naddi, 382
 Kolāb, 385
 Koomowlie, 412
 Kosi, 411
 Languliya, 384
 Liddar, 387
 Luswa or Suswa, 410
 Lutchmanteert, 380
 Machkunda, 385
 Mahé, 374
 Mānlōn Choung, 390
 Morar, 188
 Moosa, 382
 Moyaur, 373
 Muri, 377
 Namlee, 392
 Nampoung, 390, 391, 392
 Namsiri, 391
 Nellambur, 376
 Nerbada, 130, 135
 Noogoo, 375
 Pahooj, 404
 Periār, 373
 Ponāny, 375
 Poonch, 395, 396
 Punateet, 409
 Rāmgunga, 411
 Ravi, 387
 Rāni, 374
 Rushikuliya, 384
 Sarda, 409
 Sarju, 387
 Sartee, 380
 Scinde, 188
 Silhet, 387
 Sirsa, 387
 Sohān, 387
 Song, 187, 406, 407, 410
 Soormah, 409
 Sooswa, 407
 Suswa, 410

RIVERS (*continued*):—

Tamberapoomy, 378
 Taping, 392
 Tiruangady, 375
 Tons, 404
 Toongabudra, 366, 379
 Toracadu, 378
 Tullipurmbu, 374
 Uru, 392
 Vygay, 373
 Robinson's ideas, 232
 Roach fishing compared, 192, 193
 Rod characteristics, 166, 167
 — for Bà-mìn, 242
 — Barils, 261, 299, 318, 322
 — Carnatic Carp, 146, 318, 322
 — Estuary fish, 242
 — Labeo, 201
 — Mahseer, 10, 62-65, 102, 299, 300
 — hints about, 10, 62-65, 102, 299
 — jerked out of my hand, 12
 — method of holding, 102, 166
 — — using pliable, 101
 — rest, 142, 209
 — should be pliable, 10, 62-65, 102
 — special for fishing in waves, 196
 — top ring should be cased, 202
 Roe. *See* Ova.
 Rohu captures, 193
 — hooks, 123
 — setting rod for, 143, 145
 Rolling on surface of water, 219
 Rooks communicating, 81
 Roorkee, 408, 412
 — spring weigher, 40
 Ropar, 387
 Running line, 288
 — for Labeo, 199
 — length of, 284, 395, 399
 Rush of Mahseer, 9, 397
 Rust-eaten gut, 277
 SACRABYLE, 379
 Salem District, 377
 Salim, 386
 Salmon compared with Mahseer, 9, 397
 — fly tying, 125, 126
 — hook, use of, 67

- Salmon, Pamban, 242, 248
 — like *Chanos*, 259
 Salt as a bait preserver, 86
 Salter's balance, 40
 Sampagi, 368
 Sanatoria. *See* Hill Sanatoria, 261.
 Sanderson's Mahseer, 35
 Satchampatti, 372
 Sauli (*Wallago attu*), 411
 Scale-marked spoons, 60
 Scale of hooks, Francis Francis, 116
 — Kendal, 121
 — Limerick, 117, 120
 — Rohu, 123
 — Sneck bend, 121
 — treble, 119
 Scare, allowing, to pass off, 100
 Scinde, the, 188
 Scotchman's whale, 36
 Sea fish in fresh water, 256, 260
 — ova of, 339
 Sealkot, 412
 Season, influence of, on manner of Labeo biting, 194
 — best, of the year for fishing, 103, 104, 134, 138, 203, 262, 382, 383, 402, 413, 418
 — — for Bà-mìn, 245, 248
 — for fishing for Cock-up, 250
 — — *Wallago attu*, 209
 — — Mahseer, 103, 104, 134, 138
 — in Bengal and N.W.P., 402, 413, 418
 Seat in coracle, 160
 Second free hook in bottom fishing, 198
 Secunderabad, fishing near, 381
 Seer fish, 256
Setal, 216
 Selecting species, 342
 Sense of hearing in fish, 84, 99, 352
 — pain, 350
 — sight, 94, 95, 97-99, 325
 — smell, 86
 Sholapadi, 377
 Shermangundi, 376
 Shakespeare, 88, 130, 192, 207, 235, 237, 323, 337, 345
 Shark caught with old hook in it, 350
 Sharks, fresh water, in Tanjore. *See* Tanjore.
 — Trichinopoly. *See* Trichinopoly.
 — spawning, 339
 Sheep communicating, 80
 Sharing the spoils, 161
 Shedding teeth, 47
 Shelving a fish, 18
 Shermangundi, 372
 Shimoga, 379
 Shoal, a, work without scaring, 150
 Shooting fish, 227
 — a rapid, 153
 Short-sightedness of fish, 95, 325
 Shortt's, Dr., description of tussa silk-worm, 298
 Showing him the butt, 256
 Shyness of fish in much-fished waters, 78, 83
 Sialkot, 412
 Sick fish, 93, 245
 Silkworm gut, 297
Silundia Gangetica, its size, etc., 213
 — setting rod for, 143
 Simla, 187
 — district, 387
 Simoor territory, 409
 Single vent hook, 271
 Sinkers, 303
 — enlarged, 68
 Sinnan, setting rod for, 143
 Siradi, 368
 Size of bait, 62, 74-76, 139
 — Bà-mìn, 245, 246
 — Barils, 179
 — Black Spots, 176
 — Carnatic Carp, 146
 — *Chanos salmoneus*, 259
 — Chilwa, 172
 — Cock-up or Nair fish, 249
 — Eels, 137, 235
 — flies, 115
 — — for Mahseer, 115
 — — Freshwater Sharks, 207, 209, 213
 — — Indian Trout, 187, 190, 191, 410
 — in a river affecting size of fish, 358

- Size of *Labeos*, 192
 — *Lates calcarifer*, 249
 — Mahseer, 34, 35, 401
 — Murrall, 226
 — Olive Carp, 179
 — Red Perch, 253
 — Seer, 256
 — spoon, 61, 75, 129, 159, 402
 — winch, 283, 288
 Sleep, do fish, 352
 Slowly fly fish, 127
 — spin, 88, 89, 95
 Smell, sense of, in fish, 86
 — Otter under water, 328, 329, 331
 Smoky dun fly, 125
 Snails, breeding of, 342
 — manner of feeding, 343
 Snood, 275
 Snow melting injurious to fishing, 104, 402
 Sociable weaver bird, 81
 Sohra, 404
 Sone or Song, the, 187
 Soonamunge, 409
 Sopur, 387
 Sorts of fish for bait, 73, 74
 Sound produced by vibrations, 84
 South Canara District, 367
 S. P. and Delhi Railway, 187
 Spanish student, 136
 Spate ruinous to Mahseer fishing, 49
 Spawn, small fish waiting for and eating, 77
 Spawning in batches, 42-44
 — in the sea, 339
 — Mahseer wholesome, 42
 — of Cat-fish, 339
 — Murrall, 339
 — Perch, 338
 — Salmon, etc., 338
 — Sharks, 339
 — Stickleback, 338
 — Trout, 338
 Spearing Crocodiles, 347
 — Goonch, 408
 Special hook for Mahseer, 119, 269, 402, 414
 — stations affected by fish, 111
 Specimens, preservation of, 359, 362, 363
 Speech, the equivalent of, in fishes, 77-79, 83-86
 Speed in spinning, 88, 89, 95
 Spent fish, not always unwholesome, 42
 Spinners, 69-72, 272
 Spinning slowly up, down, and across stream, 88, 89, 95
 — tackle for Mahseer. See "K.'s" letter and 269
 — *versus* fly-fishing, 55, 402
 — when followed, 96, 128
 Spirit as a bait preserver discouraged, 86
 Spoon crumpled up, 52
 — Giri, 275
 — hog-backed, 159, 275
 — hog-backed fly, 128
 — should be heavier than in England, 60
 — size, weight, use of, 60, 61, 75, 129, 159, 274, 402
 — size that a rod will bear, 61
 — sizes for fresh-water sharks, 207
 Sport might be created by stocking ponds, 340
 — what is it, 8, 9
 Sporting power of Mahseer, 8, 397, 402
 Spring balance, 38
 Stalk your fish, 100, 108
 Standard of hooks, difficulty about, 118
 Steelyard proper, 41
 Stickleback spawning, 338
 Stocking ponds, 206, 340
 Stonehenge, 373
 Strength and size of *Polynemus*, 240, 245, 246
 Striking a fish, 100, 127, 128
 — Labeo, 205
 — Mahseer, 100, 164
 — *Polynemus*, 245
 — fine, 166, 167
 Stuffing a fish, 359
 Súbramani, 368
 Suction, bait taken by, 45
 Suffocating Porpoise and Whale, 348
 Sulking fish, 13
 Sultan's Battery, 376

- Sunset, fishing after, useless, 105
 Surukundapuram, 374
 Swallow as bait for Mahseer, 407
 Swallowing an elephant, 36
 Swimming, manner of, 355
 — power of Mahseer, 9
 Swivels, 278
 Sylhet, 413
Symbranchida, 234

Table d'hôte, 44
 Tackle breaking, 246, 395
 — fineness of important, 72, 78, 90, 91
 — fly-fishing for Mahseer, 112-120,
 124-126
 — — smaller fish, Chap. XII.
 — for Batchwa, 222, 223
 — Carnatic Carp, 156, 157
 — Freshwater Sharks, 207
 — Grey Perch, 254
 — Murral, 228
 — Red Perch, 253
 — Seetul, 217
 — generally, Chap. XX.
 — gram-fishing for Mahseer, 132
 — Jardine, 141
 — makers, 124, 271
 — making, 271
 — spinning for Bà-mìn, 242
 — — Cock-up, 250
 — — Mahseer, 59-72, 269
 Tail of Otter, peculiar formation and use
 of, 334
 Taking a rapid, 153
 Talking a little above you, 27
 Tangrot, 140, 141, 387
 Tanjore District, 377
 Tank angling, 21, 22, 26, 194, 196, 200,
 202, 206, 344
 Tarpon winch, 286
 Tatchampatte, 372
 Teeth in throat of Mahseer. *See*
 Pharyngeal.
 Telegram from Mahseer beneficial, 2
 Telepathy, 206
 Tellicherry, 240, 244
 Tench, 264
 — how to catch, 266

 Tengara, 214
 Tennent, Sir J. E., on fish hearing, 84
 Testing strain, 277
 Theocritus, 24
 Thickness of wire in hooks, 121
 Thinking, the fish a, animal, 77
 Tholampàliam, 372
 Tides, best time of, 241
 — influence of, on estuary fish, 238
 Tigers communicating, 81
 — pad rigidified, 52
 Time, best time of day for fishing. *See*
 Hour and, 105, 135, 145.
 — year for fishing. *See* Season.
 — tide, 241
 Tinnevely District, 378
 Tirthahalli, 379
 Tirupanandál, 378
 Tiruvàrùr, 378
 Tirvangady, 375
 Toongabudra Station, 366, 367
 Toracadu, 378
 Trailing spinning bait, 257
 Tranquebar, 378
 Transliteration of vernacular names, 26
 Travancore State, 378
 Treble hooks, 119, 269
 Trichinopoly, 379
 Trimmer, Asiatic, 230
 Trimulgherry, 381
 Trout, Indian, 186-191, 404, 409-411
 — Lochleven, 264
 — on the Nielgherries, 265
 Tullipurmbu, 374
 Tuppobun, 407
 Tussa silkworm gut, 297
 Tying salmon fly, 125, 126
 Tyranny among Trout, 111

 UPPINANGADI, 368

 VALLAM pond experiment, 340
 Varieties of Mahseer, 27-34, 413
 Veerajendrapet, 381
 Vent hook, 271
 Vernacular names of Mahseer, 26-29
 Vibrations in sound, 84
 Virgil, 146

- Vision, powers of, in fish, 94, 95. 97-99,
325
— towards the surface, 109
Vizagapatam, 384
Voices of birds, 81
- WADING advantageous, 95, 99
— clothes for, 323
— harmless, 323
Wallago attu, 207, 389, 411
Wariness of large fish, 75
Warner & Sons, 120
Warranga. *See* Mudrādi.
Water, clear, *versus* coloured, 49
— clear, for fishing, 49, 72
— supply, 342
— in angler's body, 37
Waves, fishing in, 196
Wax, cobbler's, 305
— fly maker's, 306
Wazirābād, 387
Weather, the influence of, 204
Weed, water, 343
Weighing Mahseer, 37-39
Weight, loss of, by drying, 37
— of Carnatic Carp, 146
- Welborne, J. E., Mr., 170
— siluroids, 215
Weller, 57
Whale spouting, 163
— suffocating, 348
Whipping gut fastenings, 303
White ants, 358
Wild dogs communicating, 81
Winch, check-, 286
— fittings, wedge fast, 294
— — mine, 294
— friction, 11
— sizes of, 283, 286, 288
Wire gimp, 208
— thickness of, in hooks, 121
“W. J. F.'s” contribution, 130
Wolves communicating, 81
Wondse, 368
Worm fishing, 394
Wottakuli, 381
Wurracunchairy, 375
- YEDDA KURA, 375
Yèri. *See* *Chrysophris berda*.
“Yuba Bill's” notes on Goonch, 211
— *Wallago attu*, 212

LONDON :

PRINTED BY WILLIAM CLOWES AND SONS, LIMITED,
STAMFORD STREET AND CHARING CROSS.

THE ROD IN INDIA.

BEING HINTS HOW TO OBTAIN SPORT.

WITH REMARKS ON THE NATURAL HISTORY OF, FISH
AND THEIR CULTURE.

BY

HENRY SULLIVAN THOMAS, F.L.S., Madras Civil Service (Retired),
Author of "Tank Angling in India."

Third Edition.

As the Second Edition was, in comparison with the First Edition, nearly half of it a new book, so the Third Edition makes a further stride in the like direction, with more than a third of new matter.

New Fish are introduced, with new methods of capture.

Most of the previous Full-page Lithographs are reproduced, reduced by photography to the size of the present handier volume, and two new plates of fish are added.

There are also Ninety-six Illustrations of Tackle in the letterpress.

OPINIONS OF THE PRESS ON SECOND EDITION.

"The highly valued sportsman's book."—OVERLAND MAIL.

"Entertaining and exhaustive. . . . Already too well received to need recommendation."—SPORTING AND DRAMATIC.

"Will also be read with real pleasure by lovers of the gentle craft in all parts of the world. . . . A very thorough and excellent book."—GRAPHIC.

"A thoroughly capital book in every respect. . . . Every pleasant page—and no page is unpleasant—is a revelation. . . . Lead the reader on from page to page with unflagging interest. . . . First-rate work."—FISHING GAZETTE.

"To the angler going out to India Mr. Thomas's book will be a necessary part of his outfit."—FIELD.

"Very pleasant reading."—MADRAS MAIL.

"Anglers will surely be delighted with *The Rod in India*. Naturalists will undoubtedly take a keen interest. Readers with no special bias will be both gratified and insensibly instructed."—ILLUSTRATED LONDON NEWS.

"The second edition will be heartily welcomed. The most exacting reader need fear no disappointment, and the angler new to India will owe a debt of gratitude. . . . Not a dull page."—TIMES OF INDIA.

"Very able."—FRIEND OF INDIA.

"A book to read for pleasure at home, as well as to use as a handbook of exceeding value to the angler who may be already there, or intending to visit India."—LAND AND WATER.

"Very excellent and pleasant book. The chapter on the Natural History of this Fish is one of the most interesting in the volume."—NATURE.

"We cordially recommend to all our readers."—THE ASIAN.

"Pleasantness of his literary style."—THE ENGLISHMAN.

Opinions of different Contributors to the 'Angler's Handbook.'

"His two books on fishing should be in the hands of every fisherman, as they are charming masterpieces."—p. 5.

"First and foremost comes Thomas's splendid work, *The Rod in India*, a truly valuable and delightful book. Thomas's *Tank Angling* is most useful to those who go in for fishing of this kind, and, in fact, is useful to all anglers."—p. 109.

"Every fisherman should buy Thomas's books. *The Rod in India* is a masterpiece. There is no book on fishing comparable to it, since the days of Isaac Walton."—p. 110.

"All the information the most exacting fisherman could require is furnished in Mr. Thomas's incomparable book, *Tank Angling in India*."—p. 122.

"Accept Mr. Thomas's teachings unreservedly and entirely."—p. 123.

"Mr. Thomas's excellent works."—p. 134.

"Mr. Thomas's book, *Tank Angling in India*, is a *sine quâ non* to those who have opportunities for this kind of sport."—p. 139.

LONDON:

W. THACKER & CO., 2, Creed Lane, E.C.

CALCUTTA:

THACKER, SPINK & CO.

MADRAS:

HIGGINGBOTHAM & CO.

C. FARLOW & CO., LIMITED, 191, STRAND, LONDON, ENGLAND

MANUFACTURERS OF

First-Class Rods, Flies & Tackle

SUITABLE FOR ALL PARTS OF THE WORLD.

SPECIAL DEPARTMENT FOR

Mahseer Rods, Winches, Lines and Tackle

WITH ALL THE LATEST IMPROVEMENTS,

Recommended by H. S. THOMAS, Esq., and supplied at the prices quoted by him in this volume.

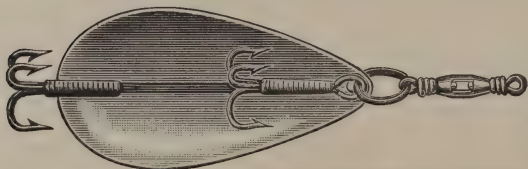
EXTRA STRONG

Hooks, Swivels, Traces and Casting Lines

MADE SPECIALLY FOR MAHSEER AND INDIAN FISHING.

Flies, Spoon Baits, Artificial Fish & all Tackle

MADE TO WITHSTAND THE INDIAN CLIMATE.



THE "GIRI"
MAHSEER FLY SPOON.

The original pattern was given to us by Sir DAVID MILLER BARBOUR, K.C.S.I.

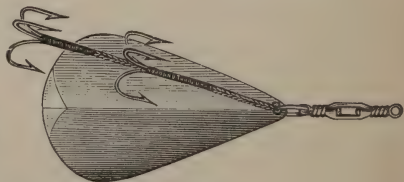
Made in 3 sizes, 1½ in., 1⅞ in. and 2 in. long. Gold one side. Silver the other.

HOG BACK SPOONS.

All sizes kept in stock, with single or twisted wire traces.

ORDERS EXECUTED WITHOUT DELAY.

Please make Money Orders payable at East Strand, and cross Drafts, Lloyds Bank, Ltd., 222, Strand.



ILLUSTRATED CATALOGUES GRATIS.

**C. FARLOW & CO., Ltd., 191, STRAND,
LONDON, ENGLAND.**

EATON & DELLER,

CROOKED LANE, E.C.

AND

BURY STREET, ST. JAMES',

LONDON.

Manufacturers of

MAHSEER RODS

AND

TACKLE

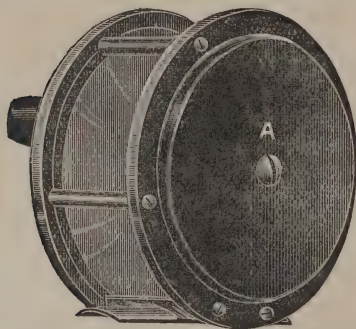
OF EVERY DESCRIPTION.

ILLUSTRATED CATALOGUE POST FREE.

To Mahseer Anglers.

IMPORTANT.

Major Cumberland's **PATENT PRESSURE PLATE** is the only safe thing to check the rushes of this fish.



The patent consists in making the axis of the Reel longer than ordinary, so that it projects through the bearing on the opposite side to the handle. On this projection is fixed a plate A (*see sketch*) of ebonite or other suitable material of about the same diameter as the reel. This plate revolves with the Reel, so that the user may easily control the speed by pressure of a finger on the plate. It can be fixed to any existing Reel, large or small.

Messrs. G. LITTLE & CO.,

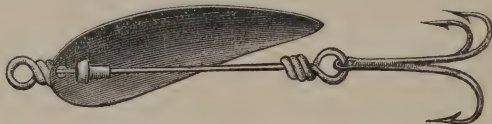
63, Haymarket, London, S.W.

For Particulars see their Catalogue, sent post free to any part of the World.

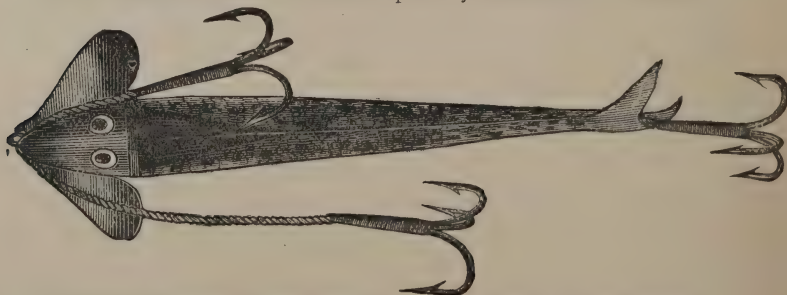
MAHSEER TACKLES.

W. J. CUMMINS has every confidence in recommending the two following Baits, which have proved most killing.

THE BAR SPOON is by far the most deadly of its kind, and will kill fish when every other bait has failed.

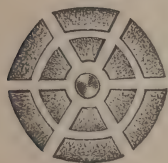


The far-famed Soleskin Phantom specially mounted for Mahseer.



Write for Catalogue, which will be sent post free. Only address—
W. J. CUMMINS, NORTH OF ENGLAND WORKS, BISHOP AUCKLAND

✓ THE "HARDY" GOLD MEDAL CANE BUILT RODS.

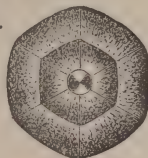


With and without STEEL CENTRES.

AS MADE FOR

H.R.H. PRINCE ALBERT VICTOR
AND LEADING SPORTSMEN.

35 Medals, &c. Greatest number held in the World.



THE "ALNWICK" GREENHEART RODS

Are not approached by any other Make.

THE FIELD says:—"It is to Messrs. Hardy Bros., of Alnwick, we owe the supremacy we have achieved as Rod Makers—they have left all competitors hopelessly behind."

E. M. CROSSFIELD says: "I am much obliged for the salmon line just received; it is as perfect as your patent ball-bearing reels, and it is impossible to say more than this. I consider your rods, with or without steel centres, a long way first; and the thanks of all anglers are due to you for your practical knowledge of what is wanted, and your continual improvements to bring all kinds of rods and tackle to perfection."



(GENERAL VIEW) LONDON AND NORTH BRITISH WORKS, ALNWICK.
(Covering a floor space of 6,000 sq. yds., since enlarged by the addition of 3,660 sq. ft.)

SPECIAL OUTFITS FOR INDIA.

"Hardy's mahseer rods are made of the very finest seasoned materials. The ferrules are shrunk on and riveted, 'Splint' ends, tightly bound with strong silk. The Built Cane Rods have metal lined and covered ferrules and tenons, to protect them. Before varnishing they use a special preparation which thoroughly protects the rods from the atmosphere. Their special mahseer spoons, 'Halcyon' spinners, 'Crocodile' tackle, 'Goodwin' spinners, flies, traces and casts are the best we have ever seen."—A. C. P., Punjab.

NEW CATALOGUE (1897), Over 270 Pages, 500 Illustrations, FREE.

HARDY BROTHERS,

LONDON AND NORTH BRITISH WORKS, ALNWICK, ENGLAND.

Branches: 16, PALL MALL, LONDON, S.W.

5, South St. David Street, EDINBURGH. 12 and 14, Moulst Street, MANCHESTER.



✓ **HARDY'S** THE 'WORLD'S' **RENOWNED**

Rod, Reel, Fly & Tackle Makers.

HARDY'S 'GOLD MEDAL' RODS AND TACKLE

ARE BEYOND COMPETITION!!

Highest Awards in the World. 35 Medals.

THE FIELD says:—"They have left all competitors hopelessly behind. Hardy's rods in these days, like the good wines in the proverb, need no bush."

THE FISHING GAZETTE says:—"Messrs. Hardy are the largest manufacturers of fishing rods and tackle in the world."

THE MANCHESTER GUARDIAN (Notice of the Great Fisheries Exhibition, London) says:—"The first place may be claimed for the absolutely perfect specimens of fly-tying sent by Messrs. Hardy Brothers, of Alnwick. They are undoubtedly the gems of the Exhibition."

THE FIELD says:—"English salmon rods remain unbeaten in the world for practical sport. During the last two seasons, Mr. Burnett, of the Fly-fishers' Club, killed 721 salmon and grilse, weighing 7,210 lb., with one steel-centred cane-built rod, made by HARDY, of Alnwick. We quote this as an example of what an English rod can do."

"SIRS,—I have used the rods you made for me since 1890, I consider them all perfect for their different purposes. They have done hard work, and a lot of it, and are one and all as perfect as when they left your hands. As a proof of how well they wear, I do not think one of the spare tops has ever been used."—SHANNON.

Tortworth Court.
"Superior to any others which I have been in the habit of using."—DUCIE.

Ravensworth Castle.
"Goods and materials of excellent quality."—RAVENSWORTH.

Chipping Norton.
"I have never had a breakage, although my trout rods have been worked hard."—MORETON.

Gayton Hall.
"Best casting rods that I have ever handled."—ROMNEY.

Cheltenham, April 29th, 1897.
"DEAR SIRS,—I have the greatest pleasure in saying that the 'Houghton' rod was everything that could be desired in India. I did a good deal of fishing with this rod on the river Nerbudda, C.I., for mahseer and other Indian fish, and although the rod was severely tried, it never failed me. It stood successfully the intense heat and the rains which tries a rod very considerably indeed. I can only add that it was always a perfect pleasure to use it, a long or a short cast being made with equal facility."—G. M. SWINEY, Lieut.

Rajouri Kashmir, September 3rd, 1894.
"Please send me to Jubbulpore, C.P., India, 1 doz. 2 inch improved 'Halcyon' Spinner; 3 doz. 1½ inch ditto; 3 doz. 1½ inch ditto. I find these a most killing bait for mahseer. The gut you send me is wonderful. The 14 ft. rod I got through your London house also is excellent for medium and large mahseer."—LANCLOT GRAHAM, Capt. R.A.

118 LB. TARFON KILLED ON A 14 FT. HARDY FLY ROD.

Florida, U.S.A., March 29th, 1896.
"I have landed a tarpon weighing 118 lb. on the Cholmondeley Pennell 14 ft. rod I purchased from you some years ago. I have killed fish in many countries with this rod, and it has never been seen to or repaired in any way. The tarpon was on for an hour and five minutes, and the rod was bent nearly double all this time, but is as straight as ever after this severe test."—C.C.D.

IMPORTANT.—If you want the best of everything in Cane-Built, Cane-Built Steel-Centre, Greenheart, &c., Rods, Reels, Flies, Tackle, &c., write us; it will pay you. Remember the "Best" is always the Cheapest.

NEW CATALOGUE (1897), Over 270 Pages, 500 Illustrations, FREE.

HARDY BROS., ALNWICK, ENGLAND,

Practical Anglers, Inventors, and Manufacturers.

BRANCHES—

61, PALL MALL, LONDON, S.W.

5, South St. David Street, EDINBURGH. 12 and 14, Moulst Street, MANCHESTER.



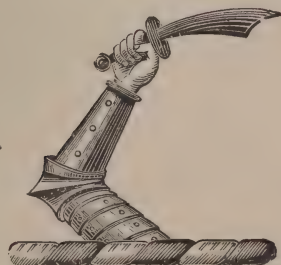
HENRY MILWARD & SONS, L^D.

MANUFACTURERS OF HIGH-CLASS

Fish Hooks, Fishing Rods, and Tackle

OF EVERY DESCRIPTION, FOR ALL PARTS OF THE WORLD.

TRADE MARK.



THE "IRON ARM."

Sole Makers of—

The Transparent "Indestructible" Phantom Minnow.

"Inimitable" Flies and Insects.

The "Anglers'" Spinner in four sizes for use with natural bait.

Specialities in—

"The Iron Arm" brand pure silk Waterproof Lines.

Salmon and Trout Flies.

Minnows of all descriptions.

Gut Casting Lines, Traces, and Tackles.

Hooks and Swivels of every pattern.

Reels in metal, wood, ebonite, etc.

MAKERS OF THE LARGEST VARIETY OF RODS IN THE WORLD.

*Best workmanship and materials and best value
that can be obtained.*

Importers of Silkworm Gut. Wholesale only.

1897 Edition of Illustrated Catalogue (100 pages) to **TRADE ONLY** on application.

ESTABLISHED 1730.

REDDITCH, ENGLAND.



WM. BARTLEET & SONS,

ABBNEY MILLS,
REDDITCH, ENGLAND.

Manufacturers of the
“ARCHER” BRAND TESTED
FISH HOOKS AND FISHING TACKLE.

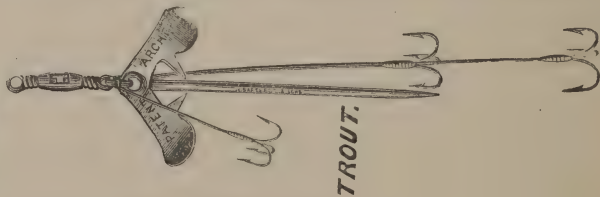
WHOLESALE ONLY. Goods can be obtained Retail
through any Dealer.

 See FISH HOOKS, mentioned in pages vii., 117, 119, 120, 121.

PATENT
ARCHER
SPINNER

(Haynes' Patent).

Made in 5 sizes.



SPOON BAITS,
 special heavy metal for
 Mahseer, &c.



“ARCHER JARDINE” DETACHABLE LEADS,
 made in 11 sizes, from $\frac{3}{4}$ to 4 inch; non-slipping. Registered No. 229933.

London House: 11 & 12, Goldsmith Street, Wood Street, E.C.

S. ALLCOCK & CO.,

Largest Fishing Rod, Hook, and Tackle Manufacturers in the World,

STANDARD WORKS, REDDITCH.

PARIS:
77, Rue Rambutau.



TRADE MARK.

LONDON:
60, Queen Victoria Street.

CALCUTTA AGENTS: WALTER LOCKE & CO.



17 Gold Medals and Highest Awards at International Exhibitions.

Mahseer
Tackle
a Speciality.

Mahseer
Treble Hook.



"Hercules"
Patent
Rust-proof
Wire Gimp.

"Hercules"
Gut Casts.



*Our Hand-made Split Cane Rods for Trout and Salmon,
with or without steel centres.*

CHARLES LANCASTER.

Awarded 50 First Class Prizes, Medals, and Diplomas.

NOW READY, AND SENT FREE BY POST,

60-paged Illustrated Price List

OF

HAMMER & REJECTING GUNS

"One Trigger" Double Barrel Guns.

COMBINATION BALL AND SHOT GUNS.

Non-Fouling Smooth Oval Bores, '256's, 303's, and Expresses,
Antelope, Rook, and Rabbit Rifles.

CLAY PIGEONS, TRAPS, CARTRIDGES, PISTOLS, &c.

THE ART OF SHOOTING.

By CHARLES LANCASTER.

Fifth Edition. Price 7s. 6d. Postage, 6d. extra.

GUN FITTING WITH TRY GUNS, TARGETS, &c.,

*And Lessons in the Art of Shooting at Private Shooting Grounds
at Stonebridge, near Willesden Junction.*

Factory Established 1827. Rebuilt 1890 at—

2, Little Bruton St., at the back
of, and com-
municating
with, 151, New Bond St.
LONDON, W.

A. CARTER & CO.,

137, St. John Street Road, London, E.C.

IMPERIAL GREENHEART MAHSEER RODS, 16 to 18 feet,
Splint End Ferrules, Spiral Lock Joints, and Double Cork Handles,
Snake Rings, Two Tops and Division Case. £2 2s.

OUR PATENT WAGTAIL, THE BEST MAHSEER BAIT EXTANT.



PATENT TUBULAR STEEL FLY RODS.
CATALOGUE GRATIS.

F. T. WILLIAMS & CO.,

10, GREAT QUEEN STREET,
LONDON, W.C.,

MANUFACTURERS OF HIGH-CLASS
FISHING RODS, WINCHES, LINES, FLIES, AND TACKLE
AT LOW PRICES FOR CASH.

MAKERS OF THE
CELEBRATED SPLIT
CANE RODS.



RODS & TACKLE
REPAIRED ON THE
PREMISES.

MAHSEER RODS & TACKLE,

As recommended by H. S. THOMAS, Esq., in his book, "The Rod in India."

Special attention is paid to the mounting of Baits, etc., and the strength of the various Tackles.

CATALOGUES GRATIS.

Gillett's Celebrated Greenheart Trout Rods,
from 7/6 to 20/-.

Gillett's Celebrated Greenheart Salmon Rods,
from 20/- to 35/-.

Gillett's Celebrated Whole Cane Trout Rods,
from 21/- to 30/-.

Gillett's Celebrated Whole Cane Grilse and
Salmon Rods, 25/- to 40/-.

Gillett's Celebrated Salmon Casts, 3 yards,
extra Stout, 2/6.

*Every other requisite in Fishing Tackle,
Best Quality at Lowest Prices.*

J. GILLETT,

40, FETTER LANE, FLEET ST., LONDON, E.C.



THERE'S NOT AN
ANGLER IN ANY
PART OF INDIA

who would not find it to his advantage to
send to

OAKES & CO., LTD., MADRAS,

FOR

FISHING TACKLE.

LARGEST SELECTION IN THE EAST.

Send for Price List (gratis).

THOMAS'S LABEO RODS AND TACKLE ALWAYS IN STOCK.

No. 80.

A LIST OF SPORTING WORKS

Selected from the PUBLICATIONS of

THACKER, SPINK & CO., CALCUTTA,

AND

W. THACKER & CO., LONDON.

1897.

Tank Angling in India. By H. S. THOMAS, F.L.S., Author of
"The Rod in India." Thick crown 8vo., cloth. Rs. 9.

Angling on the Kumaon Lakes. With a Map of the Kumaon
Lake Country and Plan of each Lake. By Depy. Surgeon-General W. WALKER.
Crown 8vo. Rs. 4.

"Written with all the tenderness and attention to detail which characterise the followers of the
gentle art."—*Hayes' Sporting News.*

**The Sportsman's Manual in Quest of Game in Kullu,
Lahoul, and Ladak to the Tso Morai Lake.** With Notes on Shooting
in Spiti, Bara Bagahal, Chamba, and Kashmir, and a Detailed Description
of Sport in more than 100 Nálás. With 9 Maps. By Lt.-Col. R. H. TYACKE,
late H.M.'s 98th and 34th Regiments. Fcap. 8vo., cloth. Rs. 3.8.

**Large Game Shooting in Thibet, the Himalayas, and
Northern India.** Containing Descriptions of the Country and of the
various Animals to be found; together with Extracts from a Journal of
several years' standing. By Colonel ALEXANDER A. KINLOCH. Third
Edition. With 34 Illustrations and Map of the District. 4to. Rs. 25.

"The splendidly illustrated record of sport. The photogravures, especially the heads of the
various antelopes, are lifelike; and the letterpress is very pleasant reading."—*Graphic.*

Modern Polo. A Practical Guide to the Science of the Game,
Training of Ponies, Rules, etc. By E. D. MILLER, late 17th Lancers.
Edited by Captain M. H. HAYES, F.R.C.V.S. Illustrated with 64 Repro-
ductions from Photographs and Drawings. Imperial 16mo. Rs. 12.8.

Polo Rules. Rules of the Game by the Indian Polo Association,
1892. Rules of the Calcutta Polo Club. Rules for Inter-Regimental Polo
Tournaments, Station Polo, and Polo. By an "OLD HAND." Foolscap
8vo. Re. 1.

The Polo Calendar. Compiled by the Indian Polo Association.

CONTENTS: Committee of Stewards, Rules for the Regulation of Tournaments, etc.—Rules of the Game—Station Polo—List of Members—List of Existing Polo Ponies, Names and Description, with Alphabetical List—Records of Tournaments—Previous Winners. Vol. I., 1892-93. Vol. II., 1893-94. Each Re. 1.8. Vol. III., 1894-95. Rs. 2.

Rules of Polo. From the Polo Calendar. (Revised 1895.) As. 8.

Station Polo. The Training and General Treatment of Polo Ponies, together with types and traits of Players. By LUCIFER. Crown 8vo. Rs. 3.

Calcutta Turf Club: Rules of Racing, together with the Rules relating to Lotteries, Betting, and Defaulters, and the Rules of the Calcutta Turf Club. *Authorised Edition.* (Revised in May, 1892.) Cloth. Rs. 2.

Calcutta Turf Club: Racing Calendar. Vol. I., August 1, 1888, to April 30, 1889. Vol. II., to April 30, 1890. Vol. III., to April, 1891. Vol. IV., to April, 1892. Vol. V., to April, 1893. Vol. VI., to April, 1894. Vol. VII., to April, 1895. Vol. VIII., to April, 1896. Each Rs. 4.

Calcutta Racing Calendar. Published every Fortnight. Annual Subscription. Rs. 12.

Seonee; or, Camp Life on the Satpura Range. A Tale of Indian Adventure. By R. A. STERNDALÉ, Author of "Denizens of the Jungles." Illustrated by the Author. With an Appendix. Second and Cheaper Edition. Post 8vo. Rs. 7.

"He has strung these detached reminiscences together after a new plan, and has varied them with descriptions of Indian life, native and Anglo-Indian, which are very pleasant reading"—*Home News*.

"Mr. Sterndale's interesting narrative of Indian life."—*Broad Arrow*.

Notes on Stable Management in India and the Colonies.

Food, Water, Air and Ventilation, Grooming, Gear, etc. By Vety. Capt. J. A. NUNN. Second Edition, Revised and Enlarged. Crown 8vo., limp cloth. Rs. 3.8.

Indian Horse Notes. An Epitome of useful Information arranged for ready reference on Emergencies, and specially adapted for Officers and Mofussil Residents. By Major C——. Third Edition, Revised and Enlarged. Fcap. 8vo., cloth. Rs. 2.

The Best Breeds of British Stock for England and the Colonies. By Professors J. P. SHELDON and JAMES LONG. Edited by JOHN WATSON, F.L.S., Author of "Nature and Woodcraft," etc., etc. Medium 8vo., boards. Rs. 2.8.

Written by well-known authorities, who are men of science and practical farmers.

Useful Hints to Young Shikaris on the Gun and Rifle.

By "THE LITTLE OLD BEAR." Reprinted from the "Asian." Crown 8vo. Rs. 2.8.

Denizens of the Jungles. A Series of Sketches of Wild Animals, illustrating their Form and Natural Attitude. With Letterpress Description of each Plate. By R. A. STERNDALÉ, F.R.G.S., F.Z.S., Author of "Mammalia of India," &c. Oblong folio. Rs. 10.

Twenty Years' Pig-Sticking in Bengal. By RAOUL. Illustrated with 6 Portraits. Rs. 6.8.

A Bobbery Pack in India. With an Appendix containing a Short Excursus on Banting, and an Interview with Mr. Pickwick. By Captain JULIAN. Crown 8vo., sewed. Re. 1.

Riding for Ladies, with Hints on the Stable. A Lady's Horse Book. By Mrs. POWER O'DONOGHUE. With 91 Illustrations by A. CHANTREY CORBOULD. Imperial 16mo. Rs. 7.8.

"It is characteristic of her book, as of all books of any value, that it has a distinctive character. Sound common sense and a thoroughly practical way of communicating instruction are its leading traits."—*Daily News*.

Horse Breeding in India. Being a Second Edition of "The Steeple Chase Horse: How to Select, Train, and Ride him, with Notes on Accidents, Diseases, and their Treatment." By Major J. HUMFREY. Crown 8vo. Rs. 3.8.

Guide to the Examination of Horses for Soundness (for Students and Beginners). By J. MOORE, F.R.C.V.S., Remount Depôt, Calcutta. Fcap. Re. 1.

Dogs for Hot Climates. A Guide for Residents in Tropical Climates as to suitable Breeds, their Respective Uses, Management, and Doctoring. By VERO SHAW, Author of "The Book of the Dog," and Captain M. H. HAYES, F.R.C.V.S. 24 Illustrations of Typical Dogs from life. Crown 8vo. Rs. 8.

Contains: Varieties of Dogs suitable for Hot Climates, Management of Dogs in Hot Climates, Medical Treatment of Dogs in Hot Climates.

How to Choose a Dog, and How to Select a Puppy. With Notes on the Peculiarities and Characteristics of each Breed. By VERO SHAW, Author of "The Illustrated Book of the Dog," late Kennel Editor of the "Field." Crown 8vo., sewed. Re. 1.8.

Indian Notes about Dogs: Their Diseases and Treatment. By Major C——. Sixth Edition, Revised. Fcap. 8vo., cloth. Re. 1.8.

Highlands of Central India. Notes on their Forests and Wild Tribes, Natural History, and Sports. By Captain J. FORSYTH, B.S.C. New Edition. With Map and Tinted Illustrations. Rs. 7.8.

CAPTAIN M. H. HAYES' BOOKS ON HORSES.

Points of the Horse. A Familiar Treatise on Equine Conformation.

By Captain M. H. HAYES, F.R.C.V.S. Illustrated by over 400 Reproductions of Photographs of Typical "Points" and Horses. **Second Edition** Revised and Enlarged. Super royal 8vo., cloth, gilt top. Rs. 32.

"No book like this has hitherto appeared in English, or any other language."—*Veterinary Journal*.

Veterinary Notes for Horse-Owners. An Illustrated Manual of

Horse Medicine and Surgery, written in simple language. By Captain M. H. HAYES, F.R.C.V.S. **Fifth Edition**, Revised throughout in accordance with the latest scientific researches. Considerably Enlarged, and incorporating the substance of the Author's "Soundness and Age of Horses." Illustrated with a large number of Reproductions from Photographs by the Author, and Drawings by the late J. H. OSWALD BROWN. Rs. 12.

Illustrated Horse Breaking. By Captain M. H. HAYES, F.R.C.V.S.

Entirely Rewritten and Letterpress more than doubled, and 75 Reproductions from Photographs added to the Original Illustrations by J. H. OSWALD BROWN. **Second Edition**. In imperial 16mo., uniform with "Riding." Rs. 21.

Training and Horse Management in India. By Captain

M. H. HAYES, F.R.C.V.S. **Fifth Edition**. Crown 8vo. Rs. 6.

"No better guide could be placed in the hands of either amateur horseman or veterinary surgeon."—*Veterinary Journal*.

"A useful guide in regard to horses anywhere. . . . Concise, practical, and portable."—*Saturday Review*.

Riding: On the Flat and Across Country. A Guide to

Practical Horsemanship. By Captain M. H. HAYES. With 75 Illustrations by STURGESS and J. H. OSWALD BROWN. **Third Edition**, Revised and Enlarged. Rs. 7.8.

"The book is one that no man who has ever sat in a saddle can fail to read with interest."—*Illustrated Sporting and Dramatic News*.

"We heartily commend it to our readers."—*Sporting Times*.

The Horsemwoman. A Practical Guide to Side-Saddle Riding. By

Mrs. HAYES. Edited by Captain M. H. HAYES. Illustrated by 48 Drawings by J. H. OSWALD BROWN, and 4 Photographs. Imperial 16mo. Rs. 7.8.

Infective Diseases of Animals. Being Part I. of the Translation,

by Captain M. H. HAYES, of Friedberger and Frœhner's Pathology of the Domestic Animals. Translated and Annotated by Captain M. H. HAYES, F.R.C.V.S., Dr. G. NEWMAN, D.P.H., and others. In Two Vols., medium 8vo. Rs. 12.8 each Vol. When completed, the work may be had bound two vols. in one. Rs. 25.

Calcutta: THACKER, SPINK & CO.

London: W. THACKER & CO., 2, CREED LANE, E.C.

Boston Public Library
Central Library, Copley Square

**Division of
Reference and Research Services**

The Date Due Card in the pocket indicates the date on or before which this book should be returned to the Library.

Please do not remove cards from this pocket.

